



**Ontario**

Ministry of the  
Environment

# **GUIDE FOR APPLYING FOR APPROVAL OF MUNICIPAL AND PRIVATE WATER AND SEWAGE WORKS**

**SECTIONS 52 AND 53  
ONTARIO WATER RESOURCES ACT  
R.S.O. 1990**

**Date: August 2000**

PIBS: 4063e (04/03)

**Please Note:**

The 'Guide For Applying for Approval of Municipal and Private Water and Sewage Works' (Publication number 4063) is currently being amended to reflect the requirements of the new Safe Drinking Water Act, 2002 and should only be used as a reference when completing application forms. In the future, the Ministry of the Environment will require that all applications are submitted using revised forms and guides. These documents will be available shortly on the Ministry of the Environment website at [www.ene.gov.on.ca](http://www.ene.gov.on.ca) (under 'Publications'), or by contacting the Environmental Assessment and Approvals Branch at 1-800-461-6290 or locally at 416-314-8001.

## TABLE OF CONTENTS

FOREWORD .....	iii
PURPOSE .....	iv
BACKGROUND .....	iv
<b>PART I - GENERAL INSTRUCTIONS FOR APPLICANTS .....</b>	<b>1</b>
1. Who Must Apply .....	1
1.1 Municipal ownership of communal water and sewage works .....	1
2. When to File Applications .....	1
3. Where to File Applications .....	2
3.1 Transfer of Review Program .....	2
3.2 Direct submission .....	2
4. The Approval Process .....	3
4.1 Pre-application consultation .....	3
4.2 Screening of applications for approval .....	5
4.3 Technical review of applications for approval .....	6
4.4 Issuance of approval .....	8
4.5 Approval subject to approval of final plans and specifications .....	9
5. Public Notification and Access to Application Information .....	10
6. False Information .....	10
7. Questions Regarding Filing Applications for Approval .....	10
<b>Part II - INSTRUCTIONS FOR COMPLETING APPLICATION FORM .....</b>	<b>12</b>
Section 1. Client Information .....	12
Section 2. Client Physical Address .....	14
Section 3. Client Mailing Address .....	15
Section 5. Project Technical Information Contact .....	20
Section 7. Other Approvals/Permits .....	23
Section 8. Public Consultation/Notification .....	23
Section 9. Environmental Bill of Rights (EBR) Requirements .....	23
Section 10. Environmental Assessment Act (EAA) Requirements .....	25
Section 11. Supporting Information Checklist .....	26
Section 12. Application Fee .....	27
Section 13. Statement of Client .....	29
Section 14. Statement of Municipality .....	29
<b>Part III - SUPPORTING INFORMATION REQUIREMENTS .....</b>	<b>31</b>
1. ENVIRONMENTAL IMPACT ANALYSIS .....	31
1.1 Environmental Impact - Sewage Works .....	31
1.2 Environmental Impact - Water Works .....	33
2. DESIGN GUIDELINES AND OTHER REFERENCE DOCUMENTS .....	34
3. DOCUMENTATION AND INFORMATION REQUIREMENTS .....	35
3.1 SEWAGE WORKS INFORMATION .....	35
3.1.1 Sewage Works - Preliminary Engineering Report .....	35
3.1.2 Sewage Works - Design Brief (Basis of Design) .....	38
3.1.3 Sewage Works - Final Plans .....	43
3.1.4 Sewage Works - Specifications .....	46
3.2 WATER WORKS INFORMATION .....	47
3.2.1 Water Works - Preliminary Engineering Report .....	47

3.2.2	Water Works - Design Brief (Basis of Design) . . . . .	50
3.2.3	Water Works - Final Plans . . . . .	52
3.2.4	Water Works - Specifications . . . . .	55
4.	DETAILED DESCRIPTION OF PROPOSED WORKS . . . . .	55

APPENDIX A: Approvals Legislation Overview

APPENDIX B: Environmental Guidelines and Procedures Overview

APPENDIX C: Municipalities Currently Under the Transfer of Review Program

APPENDIX D: Regional, District and Area Offices of the Ministry

APPENDIX E: Summary of Water Works Application Costs

APPENDIX F: Summary of Sewage Works Application Costs

## FOREWORD

The Ministry's approvals program is designed to ensure that all undertakings requiring approval under the legislation administered by the Ministry are carried out in accordance with that legislation (i.e., Acts and Regulations) and the Ministry's Environmental Guidelines and Procedures developed to ensure consistency of approach to various aspects of environmental protection throughout the Province. The guidelines and procedures are continually updated by the Ministry as environmental standards are modified to reflect changing needs of environmental protection. As these requirements are changed, the information required to demonstrate compliance with those requirements may also change. **In recognition of this, the Ministry intends to periodically update this document to reflect the most current requirements.**

**While every effort has been made to ensure the accuracy of the information contained in this guide, it should not be construed as legal advice.** If proponents/users of this guide have any doubts or questions regarding legal aspects of the document, they should consult their legal counsel.

For any addenda or revisions, users of this guide may contact,

Environmental Assessment and Approvals Branch  
2 St. Clair Avenue West  
Floor 12A  
Toronto, Ontario  
M4V 1L5

Tel. (416) 314-8001 or (Toll Free) 1-800-461-6290  
Fax. (416) 314-8452

## PURPOSE

This Guide is intended to provide guidance to Applicants requesting approval of municipal and private water and sewage works (other than industrial sewage works) under sections 52 and 53 of the *Ontario Water Resources Act*, R.S.O. 1990, Chapter O.40. The Guide describes the approval process in general, clarifies the information required by the respective application forms, and outlines the technical information that may be required in support of various applications.

## BACKGROUND

The mandate of the Ministry of the Environment is to ensure protection, and where degraded, rehabilitation of the natural environment, and conservation of water and material resources for the enjoyment and benefit of the present and future generations of the people of Ontario.

This mandate is sanctioned by several pieces of legislation, which include the *Ontario Water Resources Act* (OWRA), the *Environmental Protection Act* (EPA), *Pesticides Act* (PA), the *Environmental Assessment Act* (EAA), the *Environmental Bill of Rights* (EBR), and the *Services Improvement Act* (SIA), together with numerous Regulations made under these Acts.

These Acts and Regulations establish the authority and responsibility of the Ministry, the legal requirements for proponents of various undertakings, obligations of the owners of existing facilities and equipment with respect to their impact on public health and the environment, and the rights of the residents of Ontario with respect to those undertakings, facilities and equipment. These laws ensure that proponents of undertakings with a potential for impact on public health and/or the environment are required to obtain approvals or permits prior to implementation of those undertakings, and that the residents of Ontario are made aware of proposals for such undertakings and are provided an opportunity to comment on those proposals.

The statutory requirements for water and sewage works approvals are contained in Sections 52 and 53 of the *Ontario Water Resources Act* (OWRA), R.S.O. 1990, Chapter O.40 (formerly, ss. 23 and 24 OWRA, R.S.O. 1980), as amended by sections 24 and 25 of the *Services Improvement Act* (SIA), R.S.O. 1997.

Regulation 525/98, Approval Exemption, made under the *Ontario Water Resources Act*, exempts certain minor water and sewage works from the approval requirements of the Act. These exempted works include watermain and sewer service connections and appurtenances, and same size and capacity replacement watermains and sewers (not including combined sewers), as well as stormwater management facilities designed to serve a single lot or parcel of land (excluding industrial land) and discharging into a storm sewer (but not combined sewer).

Regulation .../00, Drinking Water Protection, made under the *Ontario Water Resources Act*, imposes health related water quality standards (Maximum Acceptable Concentrations - MAC, and Interim MAC), and requirements for minimum treatment to be provided by water supplies, and monitoring of, and reporting on performance of the water supplies.

The *Environmental Bill of Rights* (EBR) establishes the rights and procedures which enable residents of Ontario to participate in the making of environmentally significant decisions by the government, and is designed to hold the provincial government accountable to the public for those decisions.

The amendments to the *Ontario Water Resources Act* and the *Environmental Protection Act* introduced by the *Services Improvement Act* have brought under the jurisdiction of the OWRA the construction and operation of communal and large (more than 10,000 L/d) individual sewage collection and treatment systems with subsurface effluent disposal (e.g., large septic tank and leaching bed systems), previously approved under Part VIII of the *Environmental Protection Act* by the local Health Units and District Offices of the Ministry.

In processing applications for approval, and in all other actions and decisions, the Ministry's staff is guided by guidelines and procedures developed by the Ministry in order to ensure that those actions and decisions are in concordance with the Ministry's mandate, as well as to inform the public of the basis of those actions and decisions.

In order to clarify the Ministry's approvals requirements for sewage and water works, Appendix A of this Guide provides a summary of key elements of the OWRA and other legislation administered by the Ministry in the context of the process of approval under sections 52 and 53 of the OWRA, and Appendix B provides a synopsis of the Ministry's environmental guidelines and procedures.

However, it is the proponent's responsibility to be aware of and understand all legal requirements of the OWRA and other applicable Acts and Regulations, and proponents should refer to the relevant Acts and Regulations for a comprehensive review of those requirements. Similarly, for in-depth understanding of the Ministry's guidelines and procedures, proponents should refer to the Manual of Guidelines and Procedures.

Copies of the *Ontario Water Resources Act*, Regulations and other Ontario legislation may be obtained by mail from Publications Ontario, 50 Grosvenor Street, Toronto, Ontario, M7A 1N8, in person at the Publications Ontario Bookstore, 880 Bay Street, Toronto, Ontario, M7A 1N3, or ordered by phone at (416)326-5300 or toll-free at 1-800-668-9938. They are also available on the Ontario Government's internet website at <http://www.ene.gov.on.ca>.

The Ministry's Manual of Environmental Guidelines and Procedures, as well as information on the EBR and the Environmental Registry, are available from the Public Information Centre, Ministry of the Environment, 135 St. Clair Avenue West, 1st Floor, Toronto, Ontario, M4V 1P5, and may be ordered by phone at (416) 325-4000 or toll free at 1-800-565-4923. They are also available on the Ministry's internet website at <http://www.ene.gov.on.ca>.

Proponents should also be aware that, in addition to the approvals and permits required by this Ministry, other Ontario ministries, and other levels of government (e.g., federal or municipal), may have their own approval or permit requirements. **It must be emphasized that approval under one Act does not abrogate the requirement to obtain approval under other Acts or other sections of the same Act.**

# **PART I - GENERAL INSTRUCTIONS FOR APPLICANTS**

## **1. Who Must Apply**

The responsibility for obtaining approval for the construction and operation of water or sewage works under the *Ontario Water Resources Act* lies with the legal owner of the works. If the owner is an entity other than an individual or a sole proprietor, e.g., a corporation, the person signing the application on behalf of the owner must be someone who is specifically authorized by the owner to do so. In case of a corporation, it would be an official of the corporation identified in the corporation's official document of incorporation. If the person signing the application is not an official of the corporation, the application must be accompanied by a letter signed by an official of the corporation authorizing the person to act on its behalf for that purpose.

### **1.1 Municipal ownership of communal water and sewage works**

In accordance with the Ministry's Procedure D-5-2 entitled "Application of Municipal Responsibility for Communal Water and Sewage Services" this Ministry requires municipal ownership, and responsibility for operation and maintenance of proposed new communal water and sewage works as well as the existing privately owned communal water and sewage works when they are proposed for expansion. As defined in the Procedure, communal water and sewage works are works serving more than five (5) units of full-time or seasonal residential or industrial/commercial occupancy or other occupancy as determined by MOE staff. Where municipal ownership of communal works cannot be achieved, this issue must be addressed in pre-application consultation with the local District Office of the Ministry and resolved prior to submitting an application for approval of the works. [For further information on this issue, see synopses of Guidelines D-5 and F-15 in Appendix B]

## **2. When to File Applications**

Generally, applications for approval to construct new or modify existing water or sewage works should be filed at least 6-8 weeks prior to the planned date for commencing construction.

The review period will likely be longer if the proposal is highly complex, or if during the review it is determined that additional information is necessary for proper assessment of the proposal or that the proposal needs to be subjected to a public consultation or hearing process. Also, some delays may be expected during the peak construction season.

In order to reduce the risk of unforeseen delays associated with the legal requirement to obtain an approval prior to the commencement of construction of the proposed works, proponents should familiarize themselves with the specifics of the approval process and the requirements related to the supporting information and documentation for various types of proposals outlined in this Guide, and schedule their projects accordingly. In some situations, the date for filing may be imposed by control orders, terms and conditions of previous approvals, or regulations issued by this Ministry.



### **3. Where to File Applications**

Applications for approval of municipal and private water and sewage works are formally made to the Director of the Environmental Assessment and Approvals Branch (EAAB) of the Ministry of the Environment by submitting a completed application form, together with the required supporting information and documentation, and the correct application fee. However, in some situations two different procedures for the submission of applications for approval are available to the proponent of the works.

Applications for approval of works having low technical complexity and low potential for significant environmental or public health impact, proposed to be located within certain designated municipalities may be routed through the appropriate designated municipal authority under the Transfer of Review Program. All other applications must be submitted directly to the Ministry. The two submission procedures are outlined below.

#### **3.1 Transfer of Review Program**

The Transfer of Review Program is a program where a designated municipal authority reviews the application and supporting documentation on behalf of the Ministry. The municipal authority then submits the application to the Ministry together with their recommendations for approval, or comments explaining why an application is not recommended for approval.

The types of works covered by the program depend on individual agreements between the Ministry and the designated municipal authority, and they usually include watermains, water booster pumping stations, storm and sanitary sewers (except for new stormwater outfalls), sewage pumping stations (except for those pumping directly to a sewage treatment plant), and in some cases, stormwater management facilities.

Appendix C of this Guide lists the municipal authorities participating in the program and specifies the types of water and sewage works which individual municipal authorities are authorised to review on behalf of the Ministry. However, it is recommended that before submitting an application to a designated municipal authority for review under the Transfer of Review Program, the proponent contact the Engineering Department of the municipal authority to confirm that approval for the particular type of works can be processed under the Transfer of the Review Program by that municipal authority.

For an application to be processed under the Transfer of Review Program, the proponent must submit two (2) copies of the completed application form and supporting documentation, together with an appropriate application fee, to the designated municipal authority, and one (1) copy of the completed application form and supporting documentation to the Ministry's local District Office.

#### **3.2 Direct submission**

All applications other than those qualifying for the Transfer of Review Program must be submitted directly to the Ministry.

In this case, the proponent must submit one (1) copy of the completed application form, all supporting information and documentation, and the correct application fee to the Environmental Assessment and Approvals Branch of the Ministry, and one (1) copy of the completed

application form and all supporting information and documentation to the Ministry's District Office serving the area in which the works are to be located. The locations and addresses of the Ministry's District Offices are listed in Appendix D of this Guide.

**Note:** For applications involving sewage works with subsurface disposal of effluent (formerly known as "sewage systems"), where a particular project requires submission of an environmental impact analysis report (i.e., a "reasonable use" assessment of the groundwater aquifer impact, and if applicable, an assimilative capacity assessment of the neighbouring surface waters, together with the proposed effluent criteria for the works), two (2) copies of the report must be included with the application submitted to the Environmental Assessment and Approvals Branch. The need for submission and scope of such a document must be established in pre-application consultation (q.v.).

A covering letter addressed to the Director of Environmental Assessment and Approvals Branch should accompany both submissions and indicate that a copy of the complete submission has been sent to the local District Office.

## **4. The Approval Process**

The approval process generally consists of pre-application consultation, review of application, and issuance of approval. These steps are outlined below to give proponents an understanding of the process requirements and enable them to account for those requirements in scheduling their projects in order to avoid unforeseen delays.

### **4.1 Pre-application consultation**

Pre-application consultation is a dialogue between the proponent, the Ministry, and possibly the public, prior to the submission of an application for approval. Pre-application consultation is meant to assist proponents in defining the environmental objectives for the project, such as effluent requirements, determining the requirements regarding characterisation of the source of raw water, establishing general acceptability of the proposed technology, identifying any special approval related requirements, and determining the need for public consultation/notification.

**Note:** Pre-application consultation is required for all projects involving construction of sewage/wastewater treatment and disposal facilities, expansion or re-rating of existing facilities, and major modifications/upgrades to existing facilities, introduction of an innovative technology, and projects involving Prescribed Instruments under the *Environmental Bill of Rights (EBR)*. Also, depending on their scope, it is recommended for less complex projects.

Where pre-application consultation is required or desired, it must be initiated by contacting the local District Office of the Ministry. The District Office may call upon or direct the proponent to other offices, branches or sections of the Ministry which may have a role in the approval process.

When approaching the Ministry, the proponent should be prepared to discuss the nature of the proposal and identify in general the proposed water supply and treatment and the water treatment waste stream treatment and disposal, and/or sewage treatment and disposal options, expected effluent quality and environmental impacts, location of the proposed discharge point, and any applicable requirements under other statutes, including any confidential information

concerns. The Ministry will assist the proponent in identifying all provincial environmental legislation, policies, objectives and guidelines applicable to the project, including details of applicable public consultation and notification requirements under the *Environmental Assessment Act (EAA)* and the *EBR*. The Ministry will also determine if a ground water or surface water impact assessment is required and outline the required scope of such an assessment, determine if a Permit to Take Water is required, advise on the required characterisation of the water source, and discuss with the proponent any special concerns that must be addressed in the application for approval.

Based on such pre-application consultation, the proponent would be better prepared to develop environmental objectives for the project with a clear understanding of the Ministry's requirements, complete any required public consultation process (especially any process required under the *Environmental Assessment Act*), design the works such that the Ministry's requirements and public concerns are adequately addressed, and obtain any prerequisite permits.

Where applicable, the processes that must be completed, and permits that must be obtained before an application for approval of the works is submitted to the EAAB include the environmental assessment process under the EAA, a Development Permit under section 24(1) of the *Niagara Escarpment Planning and Development Act*, and a Permit to Take Water under Section 34 of the OWRA.

Also, in cases where a surface water impact assessment is required, the assessment must be completed by the proponent and accepted by the Technical Support Section of the respective Regional Office of the Ministry before the formal application is submitted to the EAAB.

**Note: The environmental impact analysis for projects involving new or increased direct discharge of effluent from a sewage treatment facility to surface waters (including direct discharges to wetlands), and the proposed effluent criteria established on the basis of the analysis in particular, are the most basic parameters for the design of such sewage treatment facilities. A sewage treatment facility cannot be properly designed if the effluent criteria are not known. For that reason, an application for approval for a project involving a new or increased direct discharge of effluent from a sewage treatment facility to surface waters would not be accepted for review and approval unless the effluent criteria adopted for the project have already been accepted by the Technical Support Section in writing (a copy of such a written acceptance must be submitted with the application).**

**For projects with a potential for significant environmental impact other than those involving direct discharge of effluent from a sewage treatment facility to surface waters (e.g., projects involving treated sewage effluent spray irrigation, exfiltration or subsurface disposal, and water treatment plant waste stream discharge), it is not required that the environmental impact analysis be accepted by the Technical Support Section prior to the submission of the application for approval. However, if it is determined that no pre-application consultation for the project took place, and the Technical Support staff advises the Review Engineer that they are not able to assess the environmental impact analysis submitted with the application without further data or other information not readily available from the proponent, the application may be closed as grossly incomplete, and the proponent would have to re-apply for approval after completing a proper environmental impact analysis.**

## **4.2 Screening of applications for approval**

Upon their receipt by the Environmental Assessment and Approvals Branch of the Ministry, applications are pre-screened for completeness of their application forms and presence of the applicable application fees.

If an application does not include at least the administrative processing portion of the application fee (if applicable) or if its application form is incomplete (see Part II of this Guide for detailed instructions for the completion of the form), the application cannot be properly recorded on the **IDS** (Integrated Divisional System - an electronic application processing and information management system of the Operations Division of the Ministry), and the system will not allow to process the submitted fee or generate a letter of acknowledgement for the application. In such a situation, the Application Processor (a clerk of the Application Processing unit of the EAAB) will attempt to contact the Client by phone in order to obtain this critical information. However, if the Application Processor is unable to obtain this information from the Client within three business days of the receipt of the application, the application is returned to the Client in its entirety along with the application fee (if any was submitted).

Each application which includes at least the administrative processing portion of the application fee (if applicable) and whose application form is complete undergo detailed examination of the entire submission for adequacy of the submitted fee and presence of the required supporting information and documentation (see Part III of this Guide for information on the supporting information and documentation requirements), including the presence of a record of pre-application consultation.

Based on the results of the examination of the submission, the Application Processor generates a letter of acknowledgement and mails it to the Client.

In the letter of acknowledgement, the Application Processor advises the Client of the estimated application turnaround time (i.e., the number of weeks expected to be required for the completion of the technical review and approval of the application), and if applicable, identifies the missing supporting information and documentation, details of any fee inadequacy, and the date by which the Client must respond to the request for additional fee and/or information (usually two weeks from the date of the letter).

**Note: The length of time during which the Ministry would be awaiting any information requested from the Client (including resolution of any public consultation matters) is not known and at the time of sending the letter of acknowledgement and therefore it is not taken into account in the initial estimation of the application turnaround time. Any such time would be above and beyond the estimate identified in the letter of acknowledgement. Also, the initial time estimate is based on the average turnaround time of the recently approved similar applications, and the actual review time will likely be longer than the estimate if the proposal is highly complex, or if during the technical review it is determined that additional information (beyond that requested in the letter of acknowledgement) is necessary for proper assessment of the application, or if public comments received in response to posting of the proposal on the Environmental Registry (where the application requires posting of an EBR Proposal) require reassessment of the application.**

For applications subject to the Environmental Bill of Rights (EBR) requirement for public participation in the approval process, after mailing the letter of acknowledgement, the Application Processor would place the EBR Proposal for the application on the Environmental Registry (ER) for a minimum of 30 day public comment period. This ER notice to the public provides a

summary of the proposal (application for approval), and identifies the locations where the complete application can be viewed and the end date of the public comment period. During this public comment period, the public is given the opportunity to review the application and submit comments on the proposal to the Environmental Assessment and Approvals Branch of the Ministry.

If an application is complete or if for being complete it only requires an additional fee or additional information/documentation of an administrative nature (e.g., signatures, proof of legal name, etc.), after mailing the letter of acknowledgement, the Application Processor forwards the application for assignment to a Review Engineer.

On the other hand, if the outstanding information is of a technical nature, such that without the information the Review Engineer would not be able to undertake a meaningful technical review, the application is retained by the Application Processor (it is not forwarded for assignment to a Review Engineer) until an adequate response to the fee/information request in the letter of acknowledgement has been received.

**Note: If the Client fails to submit the outstanding fee or address the request for additional information or documentation identified in the letter of acknowledgement within the time allowed, the Application Processor (or the Review Engineer if the application has already been assigned to the Review Engineer) will assume that the Client is no longer interested in obtaining approval for the submitted application (i.e., wishes it withdrawn), and will initiate the process of cancelling the application and refunding the submitted application fee in the amount reduced by any applicable non-refundable portion of the fee as stipulated in the fees regulations.**

### **4.3 Technical review of applications for approval**

Detailed technical review of applications for approval assigned to a particular Review Engineer is conducted by the Engineer chronologically in order of their receipt, and therefore, for a particular application, it may be several weeks after the receipt of the application before the detailed technical review is undertaken. However, in order to expedite the process, immediately after receiving the application, the Review Engineer will determine if the application requires any supplementary review (e.g., comments on the submitted environmental impact analysis from the Technical Support Section of the appropriate Regional Office of this Ministry), and if required, will request such a review without delay.

In the detailed technical review, the Review Engineer assesses the completeness and adequacy of the submitted detailed design documentation and other supporting information, the compliance of the proposal with the Ministry acts, regulations, policies, objectives, and environmental guidelines, the conformance of the engineering design to the principles of sound engineering, and the adequacy of controls and contingencies provided to facilitate the proper operation of the works.

**Note: Specific requirements regarding the supporting technical information (including the water source information and environmental impact analysis) for various types of water and sewage works proposals are outlined in Part III (Supporting Information Requirements) of this Guide.**

For applications for which an EBR Proposal was posted on the Environmental Registry in the application screening phase of the review process (i.e., applications subject to the public participation requirement under the EBR), as part of the detailed technical review, the Review Engineer will also consider any public comments received during the public comment period identified in the ER notice for the EBR Proposal. As such, it may be necessary for the Review Engineer to discuss some of these comments with the Client and staff of the appropriate local office of the Ministry. In order to minimize delays due to the need to consider public comments at this stage, it is recommended that proponents consult potentially affected members of the public and other stakeholders prior to submitting the application for approval.

In the process of this detailed review, the Review Engineer may determine that additional information, beyond that requested (if any) in the letter of acknowledgement, is necessary for proper assessment of the application, or that the application involves aspect which require submission of an additional fee. A request for such information/additional fee is usually made in form of a letter from Review Engineer to the Client, and include a deadline for response. This deadline may vary depending on the nature of the requested information but typically the proponent is given two weeks to respond.

**Note: If the Client is unable to submit the requested information within the given time but wishes to keep the application active, by the same deadline, the Client must request an extension of the deadline and provide an adequate justification. If the Client fails to respond to the request within the given time, or if the requested deadline extension is unjustified or unreasonably long, the Review Engineer will assume that the Client is no longer interested in obtaining approval for the submitted application (i.e., wishes it withdrawn), and will initiate the process of cancelling the application and refunding the submitted application fee in the amount reduced by any applicable non-refundable portion of the fee as stipulated in the fees regulations and any additional amount determined based on the Ministry's effort expended to date in the review of the application.**

Should the Review Engineer, in the process of detailed review, determine that the proposed facilities, as designed, would not be capable of consistent compliance with the Ministry's acts, regulations, policies, objectives or environmental guidelines, or that the engineering design of the facilities does not conform to the principles of sound engineering, the Director would advise the Client in writing that the proposed facilities as designed cannot be approved. Such a "letter of non-compliance" would include the details of potential or actual non-compliance and/or non-conformance, and a deadline for response. This deadline may vary depending on the nature and complexity of the design changes required to achieve compliance/conformance but typically the Client is given two weeks to respond.

**Note: If the Client is unable to submit an amended proposal within the given time but wishes to keep the application active, by the same deadline, the Client must request an extension of the deadline and provide an adequate justification. If the Client fails to respond to the request within the given time, or if the requested deadline extension is unjustified or unreasonably long, or if the Client submits a revised proposal which is still unacceptable, or if the Client advises that they disagree with the Ministry's assessment of their proposal, the Review Engineer will initiate the process of formal refusal of the application and refunding the submitted application fee in the amount reduced by any applicable non-refundable portion of the fee as stipulated in the fees regulations and any additional amount determined based on the Ministry's effort expended to date in the review of the application. The Client would have the right to appeal such a refusal to the Environmental Appeal Board.**

Upon completion of the detailed technical review, when all outstanding issues have been addressed, the Review Engineer provides his/her recommendations on the application to the approving Director.

#### **4.4 Issuance of approval**

Upon considering the Review Engineer's recommendations, the approving Director may grant approval for the proposed works or, if in his/her opinion, it is in the public interest to do so, refuse to grant approval or grant approval on such terms and conditions as he/she deems necessary.

The Director may grant his/her approval of the proposed works by issuing one of the following documents:

- a new Certificate of Approval;
- an Amended Certificate of Approval; or
- a Notice of Amendment to Certificate of Approval.

New Certificates of Approval are issued to approve the establishment of new water and sewage works, and alteration, extension or replacements of existing water and sewage works.

Amended Certificates of Approval are usually issued to approve replacements and major alterations or extensions of existing, previously approved water and sewage works. An Amended Certificate of Approval revokes and replaces the existing Certificate of Approval.

Notices of Amendment to Certificates of Approval are usually issued to approve modifications to existing, previously approved works, and/or to impose new or modify existing terms and conditions of existing Certificates of Approval. Such a Notice becomes part of the Certificate of Approval it amends.

Where the Director decides to impose any terms or conditions on his/her approval, alter any terms or conditions of an existing approval, or refuse to grant approval, in accordance with the requirements of subsection 100 (3) of the OWRA he/she will serve a written Notice of this imposition, alteration or refusal with reasons. This Notice is appealable to the Environmental Appeal Board provided that the appeal is filed within 15 days of receipt of the Notice.

The terms and conditions of the Director's approval usually deal with the criteria for operation and performance of the works, requirements for monitoring and recording of specific indicators of the environmental impact of the works, reporting on incidents and provision of contingencies to prevent and deal with accidental spills or upsets. They may also deal with such issues as time limited approval, timing for upgrades to the works to meet new effluent quality requirements, financial assurance, or a requirement to obtain some other approvals before commencement of the construction of the conditionally approved works or its part. An example of the latter would be an approval subject to obtaining approval of the final plans and specifications for the conditionally approved works.

For applications for which an EBR Proposal was posted on the Environmental Registry in the application screening phase of the review process (i.e., applications subject to the public participation requirement under the EBR), the Director's final decision on the application (i.e., approval or refusal) is posted on the Environmental Registry. This ER notice of the Director's decision includes the details of the decision along with information on the number of comments

received and the impact of the comments on the decision, and an indication whether or not, and if applicable, how the public may seek leave to appeal the particular decision. Detail procedure for third party (public) appeals is provided in the Ministry's guide entitled " EBR Requirements for Instruments".

#### **4.5 Approval subject to approval of final plans and specifications**

When requested, in some special circumstances, the Director may grant an approval in principle for works whose detailed engineering design has not been finalized, provided that the design has advanced to the stage where all significant technical decisions having a potential to affect performance and/or environmental impact of the works have been already made. **[Note: Such an approval in principle is not an authorization to construct the proposed works.]**

Such an approval in principle would include a special condition prohibiting construction of any part of so approved works until the Director has received and approved in writing detailed engineering design drawings, specifications, and a final engineering design report containing detailed design calculations for that part of the works.

A request for such an approval will be considered if the entity financing or approving the financing of the project (e.g., the Ontario Municipal Board) requires the applicant to provide a proof of the Ministry's acceptance of the proposal prior to their release or approval to release funds for the undertaking of the detailed engineering design.

Similarly, an approval in principle, subject to a separate approval of final engineering design for the proposed works, or its part, may be granted for a large project with agreed upon phased implementation of its various components, or a "design-build" project, i.e., a project intended to be implemented through a single contract between the proponent and a Contractor who would both design and construct the works.

In the Ministry's experience, more often than not, the submitted final design introduces significant changes to the preliminary design approved in principle, and require an in-depth re-analysis of the entire proposal, which in effect, very significantly increases the total time that the Ministry has to spend reviewing the proposal, and indirectly, increases the turn around of all other applications for approval.

Therefore, requests for such staged approvals will only be considered where the proponent has included with the application for approval an adequate written justification for the proposed course of action. It is highly recommended that, where the proponent intends to take this route, the issue be discussed in the pre-submission consultation.

The technical information (including the environmental impact and/or water source information, where applicable) required to be submitted in support of various water and sewage works applications for such an approval in principle is outlined in Part III of this Guide.

### **5. Public Notification and Access to Application Information**

The release of information contained in application forms and documentation submitted in support of applications for approval is subject to the provisions of the *Freedom of Information and Protection of Privacy Act*. This Act defines what may and what may not be disclosed to the



public, and is used to assess all requests for information contained in the documents on file with applications for approval.

The information submitted with applications for approval may also be subject to the *Environmental Bill of Rights*, which requires that the public be notified of, and allowed to comment on applications for approval of certain types of proposals. In those situations, the application and the associated non-confidential supporting documentation is made available for review by members of the public.

The applicants should therefore identify all documents which are to be considered confidential and must provide detailed evidence in support of this claim. This evidence will be one of the factors the Ministry would consider when making a decision regarding disclosure of specific documents on file.

## **6. False Information**

It is an offence under section 98 of the *OWRA* to knowingly give false information to the Ministry in respect to matters under the Act or regulations. Penalties for this and other violations could result in fines of up to \$10,000 for the first conviction and up to \$25,000 for each subsequent conviction where the offence is committed by an individual and \$50,000 and \$100,000 respectively where the offence is committed by a corporation.

## **7. Questions Regarding Filing Applications for Approval**

For any assistance or advice regarding the filing of applications for approval of municipal and private water and sewage works, the Environmental Assessment and Approvals Branch of the Ministry may be contacted at the following address and telephone numbers:

Environmental Assessment and Approvals Branch  
2 St. Clair Avenue West  
Floor 12A  
Toronto, Ontario  
M4V 1L5

Tel. (416) 314-8001 or (Toll Free) 1-800-461-6290  
Fax. (416) 314-8452

## Part II - INSTRUCTIONS FOR COMPLETING APPLICATION FORM

Unless otherwise directed by the Environmental Assessment and Approvals Branch (EAAB), applications for approval of municipal and private water works and sewage works must be submitted separately using application forms titled "Application for Approval of Municipal and Private Water Works", and "Application for Approval of Municipal and Private Sewage Works", respectively.

These forms are designed to be used for all water and sewage works applications, and regardless of the type and complexity of the proposed works, **they must be completed in their entirety unless a particular item is not applicable or the form or this Guide instructs otherwise. Incomplete applications will be returned to the applicant. If a particular item is not applicable, "N/A" must be entered to indicate that the item has been considered.**

### Section 1. Client Information

Client Information identifies the individual or organization having legal responsibility for the proposed works/facilities. Normally, the Client is the legal Owner of the works/facilities. If another individual or organization, formally authorized by the Owner, applies for approval on behalf the Owner, it is still the Owner who is considered to be the Client for the purposes of the application.

The following information about the Client is to be provided in this Section:

#### 1. Client Information (Owner of works/facility)

Client Name (legal name of individual or organization as evidenced by legal documents)		Business Identification Number
Business Name (the name under which the entity is operating or trading if different from the Client Name - also referred to as trade name)		
Client Type:  <input type="checkbox"/> Corporation <input type="checkbox"/> Federal Government <input type="checkbox"/> Individual <input type="checkbox"/> Municipal Government <input type="checkbox"/> Partnership <input type="checkbox"/> Provincial Government <input type="checkbox"/> Sole Proprietor <input type="checkbox"/> Other (describe):		Activity Classification Code/Standard Industrial Classification Code (if unknown please complete Business Activity Description)
Business Activity Description (a narrative description of the business endeavour, this may include products sold, services provided or machinery/equipment used, etc.)		

**Note:** If the Client submits with the application a copy of the Master Business Licence (MBL) obtained from the Ontario Ministry of Consumer and Commercial Relations, this Section does not need to be completed except for its Business Identification Number, and Activity Classification Code and/or Business Activity Description items. [ For information of the MBL the Client may call the Ontario Business Connections (Ontario Ministry of Consumer and Commercial Relations) at 1-800-565-1921 or (416)314-9151, or access their internet website at <http://www.ccr.gov.on.ca>.]

**Client Name** - this is the legal name of the Client, as evidenced by legal documents, where Client is the individual or organization.

**Client Type** - this is the type of legal entity that the Client represents. The Client must check one of the following choices provided by the form:

- **Corporation** - an incorporated entity having the status of a legal person having its own rights and responsibilities distinct from those of its owners/shareholders
- **Individual** - a private person
- **Partnership** - an unincorporated business having two or more owners who may be individuals, corporations or other unincorporated businesses
- **Sole Proprietor** - an individual being a single (sole) proprietor of an unincorporated company operating under a name registered under the *Business Names Act*
- **Federal Government** - a federal department or agency
- **Provincial Government** - a provincial ministry or agency
- **Municipal Government** - a municipal corporation or authority
- **Other** - this choice must be checked where none of the above specific types of entities apply to the Client, and the Client must specify the “other” type of entity which more appropriately describes the Client.

**Note:** Unless the Client is a municipal, provincial or federal government, a proof of legal name of the Client must be submitted with all applications. An acceptable proof of legal name for a particular Client Type is provided by the following legal documents:

- **Corporation (Ontario):** Form 1, 2 or 3 under the *Corporations Information Act* as obtained from the Ontario Ministry of Consumer and Commercial Relations
- **Corporation (Canada):** Articles of Incorporation, Articles of Continuance (Form 11) or Articles of Amendment (Form 4) under the *Canada Business Corporations Act* as obtained from the Department of Consumer and Corporate Affairs
- **Individual:** Birth certificate, passport or other document verifying legal name of the individual
- **Partnership (Limited):** Declaration under the *Limited Partnerships Act* as obtained from the Ministry of Consumer and Commercial Relations;
- **Partnership (General):** Documents verifying legal names of all entities constituting the partnership appropriate for the type of each individual entity
- **Sole Proprietor:** Birth certificate, passport or other document verifying legal name of the individual

**Business Identification Number** - this is the number assigned to all registered business names by the Companies Branch of Ontario Ministry of Consumer and Commercial Relations.

**Business Name** - this is the name under which the Client is operating or trading, and must be provided if it is different from the Client's legal name.

**Activity Classification Code/Standard Industrial Classification Code** - this is the (Canadian) Standard Industrial Classification (CSIC) code under which the Client's business endeavour is classified, as determined in accordance with the Statistics Canada publication "Standard Industrial Classification", 1980.

**Note: Do not enter the United States SIC (USSIC) or International SIC (ISIC) codes. If the applicable CSIC code is unknown to the Client, the Business Activity Description field of the application must be completed.**

**Business Activity Description** - this is a narrative description of the Client's business endeavour, which must be provided if the Client does not know the (Canadian) Standard Industrial Classification code under which the Client's business endeavour is classified. This may include the products manufactured or sold, services provided, machinery/equipment used, etc.

## Section 2. Client Physical Address

Client Physical Address is the physical location of the Client's business head office or, if the Client is an Individual or Sole Proprietor, the Client's place of permanent residence.

The following Client address information is to be provided in this Section:

### 2. Client Physical Address - Complete A, C and D or B, C and D

A. Civic Address- Street information (applies to an address that has civic numbering and street information includes street number, name, type and direction)		Unit Identifier (identifies type of unit, such as suite & number)	
B. Survey Address (used for a rural location specified for a subdivided township, an unsubdivided township or unsurveyed territory)			
Lot and Conc.: used to indicate location within a subdivided township and consists of a lot number and a concession number.	Lot	Conc.	Part and Reference: used to indicate location within an unsubdivided township or unsurveyed territory, and consists of a part and a reference plan number indicating the location within that plan. Attach copy of the plan.
C. Municipality/Unorganized Township	County/District	Province/State	Country
			Postal Code
D. Telephone Number (including area code & extension)		Fax Number (including area code)	E-mail Address

**Note: If the Client submits with the application a copy of their Master Business Licence (MBL) obtained from the Ontario Ministry of Consumer and Commercial Relations, this Section does not need to be completed. [See Note under Section 1 - Client Information.]**

**Civic or Survey Address** - this is the address identifying physical location within a municipality, unorganized township or an unsurveyed territory, and must be provided as follows:

- **Civic Address (Street Information)** - the type of address used in urbanized areas, consisting of Street Number, Name, Type and Direction, and Unit Identifier, e.g., 437 Park Drive West, Unit 7, or

- **Survey Address (Lot/Concession)** - the type of address used in rural and suburban areas of subdivided municipalities, consisting of Lot and Concession Number, e.g., Lot 22, Concession VII, **or**
- **Survey Address (Lot/Plan)** - the type of address used in unsubdivided townships and unsurveyed territories, consisting of Lot Number, and Reference Plan Name and/or Number, e.g., Lots 4, 5 & 6, Plan 4.

**Note: A copy of the reference plan must be submitted with the application.**

**Non-Address Information** - this is any additional information which may clarify Client's physical location, it may include the community name, location in relation to roads and intersections, etc.

**Municipality/Unorganized Township** - this is the name of the lower tier municipality or unorganized (geographic) township (not the name of the community/settlement), and it must include the type of municipality (i.e., City, Town, Village, Township, or geographic township), e.g., Barrie City, Cardinal Village, Rideau Township, Canis Bay geographic township.

**County/District** - this is the name of the upper tier municipality (Regional Municipality, County or District Municipality), or geographic District or territory within which the Municipality/Unorganized Township is located.

**Note: Provide the name only (without the type of the upper tier municipality/geographic district), e.g., Halton (for R.M. of Halton), Simcoe (for County of Simcoe), or Algoma (for District of Algoma).**

**Province/State, and Country** - these must be provided.

**Postal Code** - this is the postal code of the area where the clients business head office is physically located (not necessarily the same as the postal code for the Client's mailing address).

**Telephone Number** - telephone number must be provided, and must including area code.

**Fax Number and E-mail Address** - these should be provided if available.

### **Section 3. Client Mailing Address**

Client Mailing Address is the address where the Client wishes to receive the approval and any correspondence in relation to this application. The following Client address information is to be provided in this Section:

### 3. Client Mailing Address - Complete A and C or B and C

A. Civic Address - Street information (includes street number, name, type and direction)		<input type="checkbox"/> Same as Client Physical Address	Unit Identifier (identifies type of unit, such as suite & number)	
B. Delivery Designator: <input type="checkbox"/> Rural Route <input type="checkbox"/> Suburban Service <input type="checkbox"/> Mobile Route <input type="checkbox"/> General Delivery		Delivery Identifier (a number identifying a Rural Route, Suburban Service or Mobile Route)		
C. Municipality	Postal Station	Province/State	Country	Postal Code

**Note:** If the Client submits with the application a copy of their Master Business Licence (MBL) obtained from the Ontario Ministry of Consumer and Commercial Relations, this Section does not need to be completed. [See Note under Section 1 - Client Information.]

**Civic Address or Delivery Designator and Identifier (Non-Civic Address)** - this is the address identifying location for mail delivery purposes, and must be provided as follows:

- **Civic Address (Street Information)** - this is the type of mailing address used in urbanized areas, and it consists of Street Number, Name, Type and Direction, and Unit Identifier. If the delivery address is a Post Office Box Number, it should be provided in the Street Information area of the form (do not put P.O. Box # in the Unit Identifier area or the Delivery Designator area of the form), e.g., 437 Park Drive West, Unit 7, or P.O. Box 4035, **or**
- **Delivery Designator and Delivery Identifier (Non-Civic Address)** - this is the type of mailing address used in all other than urbanized areas, and it consists of a Delivery Designator (i.e., type of delivery: Rural Route, Suburban Service, Mobile Route, or General Delivery) and Delivery Identifier (i.e., the number identifying a particular Rural Route, Suburban Service, or Mobile Route), e.g., R.R. 2.

#### Municipality or Postal Station

- **Municipality** - this is the name of the lower tier municipality within which the Client's Postal Station is located; the names of unorganized (geographic) townships cannot be used in Mailing Address, and for locations not within an organized municipality, the Postal Station must be identified instead.
- **Postal Station** - this is the name of the Client's Postal Station which is usually the name of the community or settlement within which the Postal Station is located; Postal Station name is only required for locations not within an organized municipality.

**Province/State, Country, and Postal Code** -these must be provided.

### Section 4. Site Information

Site Information includes identification, description and location of the site where the proposed works are to be established or activity undertaken. The following site information is to be provided in this Section:

**4. Site Information - (location where activity/works applied for is to take place)**

Site Name		MOE District Office		Legal Description(attach copy of a legal survey)	
A. Site Address - Street information (applies to an address that has civic numbering and street information - includes street number, name, type and direction)				<input type="checkbox"/> Same as Client Physical Address         Unit Identifier (identifies type of unit, such as suite & number)	
B. Survey Address (used for a rural location specified for a subdivided township, an unsubdivided township or unsurveyed territory) NOTE: Do not complete "B" if you completed "A."					
Lot and Conc.: used to indicate location within a subdivided township and consists of a lot number and a concession number.		Lot	Conc.	Part and Reference: used to indicate location within an unsubdivided township or unsurveyed territory, and consists of a part and a reference plan number indicating the location within that plan. Attach copy of the plan.	
				Part	Reference Plan
Non Address Information (includes any additional information to clarify site location)					
Geo Reference					
Map Datum	Zone	Accuracy Estimate	Geo Referencing Method	UTM Easting	UTM Northing
Municipality/Unorganized Township		County/District		Postal Code	
Adjacent Land Use		Is the Site located in an area of development control as defined by the Niagara Escarpment Planning & Development Act (NEPDA)?			
<input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Recreational <input type="checkbox"/> Residential <input type="checkbox"/> Agricultural <input type="checkbox"/> Other(specify):		<input type="checkbox"/> Yes (If Yes, attach copy of NEPDA permit for the proposed activity/work) <input type="checkbox"/> No			
Is the Client the operating authority?		<input type="checkbox"/> Yes <input type="checkbox"/> No		Is the Client the owner of the land (site)?	
If No, attach the operating authority name, address and phone number.				<input type="checkbox"/> Yes <input type="checkbox"/> No If No, attach the owner's name, address and consent for the installation and operation of the facilities.	

**Site Name** - this is the name under which the site is known, e.g., Lakeview Water Pollution Control Plant, or Algonquin Trails Campgrounds.

**MOE District Office** - this is the name of the District Office of the Ministry of the Environment in whose area of jurisdiction the site is located (the District Office where a duplicate copy of the application must be sent by the Client), e.g., Halton-Peel District Office.

**Legal Description** - this is the legal description of the site as evidenced by a copy of legal survey of the property which must be enclosed with the application.

**Civic or Survey Address** - this is the address identifying physical location of the site within a municipality, unorganized township or an unsurveyed territory, and must be provided as follows:

- **Civic Address (Street Information)** - the type of address used in urbanized areas, consisting of Street Number, Name, Type and Direction, and Unit Identifier, e.g., 437 Park Drive West, Unit 7, **or**
- **Survey Address (Lot/Concession)** - the type of address used in rural and suburban areas of subdivided municipalities, consisting of Lot and Concession Number, e.g., Lot 22, Concession VII, **or**
- **Survey Address (Lot/Plan)** - the type of address used in unsubdivided townships and unsurveyed territories, consisting of Lot Number, and Reference Plan Name and/or Number, e.g., Lots 4, 5 & 6, Plan 4.

**Note: A copy of the reference plan must be submitted with the application.**

**Non-Address Information** - this is any additional information which may clarify location of the site, it may include the community name, location in relation to roads and intersections, etc.

**Site Geo-Reference** - this is the geographic location of the site identified as coordinates (UTM Easting and Northing) of the site's main point of reference (e.g., the approximate centre of the treatment plant) in the Universal Transverse Mercator (UTM) grid adopted for this purpose by the Ministry. **[Note: The site's main point of reference whose UTM coordinates are provided in this section must be clearly identified on the general site plan which must be submitted with all applications.]**

The geo-reference information required to be provided is as follows:

- **Map Datum** -this is the UTM datum of the map or GPS (Global Positioning System) used to specify position of the point of reference; currently, there are two map datums in use in North America, namely, the North American Datum 1927 (NAD27) and NAD83. The NAD83 is preferred as the current Ontario Base Maps are constructed using this datum, however NAD27 is acceptable.
- **Zone** - this is the UTM Zone within which the site is located; there are four UTM Zones within Ontario, namely 15, 16, 17 and 18.
- **Accuracy Estimate** - this is the accuracy (+/- metres) of the provided UTM Northing and Easting coordinates for the point of reference; the accuracy of the data depends on the method the data is generated, e.g., the accuracy of direct geodetic survey may be less than 1 metre, a GPS (depending on its quality) may guarantee accuracy from 1-10 metres to more than 10-30 metres, and a topographic map a 10-100 metre accuracy.
- **Georeferencing Method** - this is the method used to generate the data for the provided UTM Northing and Easting coordinates for the point(s) of reference; it could be a determination by geodetic survey, or estimation from a map, a GPS or the Gazetteer (<http://geonames.nrcan.gc.ca/cgndb/english/cgndb.html>) or any other specified method.
- **UTM Easting** - this is the distance in metres east from the western delimiter of the UTM Zone to the point of reference.
- **UTM Northing** - this is the distance in metres from the equator to the point of reference.

**Note: For water supply systems having multiple water sources (intakes/wells) and those with single water sources where the water source is not located at the site of the water treatment plant (within the accuracy of the geo-reference coordinates provided), and for sewage treatment and disposal systems having multiple points of discharge (including by-passes and overflows at pumping stations) and those with single points of discharge where the point of discharge is not located at the site of the sewage treatment plant (within the accuracy of the geo-reference coordinates provided), in addition to identification of the site's main point of reference in this Section, the Client must include a separate sheet listing all intakes, wells, points of discharge and their respective UTM**



**coordinates.** For electronic submissions, this listing may be provided in the “Non-Address Information” field of the application form.

**Municipality/Unorganized Township** - this is the name of the lower tier municipality or unorganized (geographic) township (not the name of the community/settlement), and it must include the type of municipality (i.e., City, Town, Village, Township, or geographic township), e.g., Barrie City, Cardinal Village, Rideau Township, Canis Bay geographic township.

**County/District** - this is the name of the upper tier municipality (Regional Municipality, County or District Municipality), or geographic District or territory within which the Municipality/Unorganized Township is located.

**Note:** Provide the name only (without the type of the upper tier municipality/geographic district), e.g., Halton (for R.M. of Halton), Simcoe (for County of Simcoe), or Algoma (for District of Algoma).

**Postal Code** - this is the postal code of the area where the site is located (not necessarily the same as the postal code for the site’s mailing address).

**Adjacent Land Use** - this is the existing land use in the lands adjacent to the site; at least one of the provided choices (i.e., Industrial, Residential, Commercial, Agricultural, Recreational, Drinking Water Supply, or Other) must be identified; if “Other” is checked, it must be explained in the space provided.

**Location within NEPDA Development Control Area** - this is a statement indicating whether the project is to be located within the area of development control defined by, and is subject to the *Niagara Escarpment Planning and Development Act* (NEPDA).

**Note:** If the project is subject to the NEPDA, a copy of a NEPDA development permit must be submitted with the application. For information on this issue the Client should contact an office of the Niagara Escarpment Commission in Grimsby, Georgetown or Thornbury.

**Operating Authority** - this is a statement indicating whether the Client is to be the Operating Authority for the proposed works.

**Note:** If Client is not the Operating Authority, the name, mailing address and telephone number of the Operating Authority should be submitted as an attachment to the application.

**Owner of the Land (Site)** - this is a statement indicating whether the Client is the owner of the site of the proposed works.

**Note:** If Client is not the owner of the site, the name and mailing address of the land owner, and their written consent for the establishment and operation of the proposed facilities must be submitted as an attachment to the application.

## **Section 5. Project Technical Information Contact**

Project Technical Information Contact is an individual identified by the Client as one who is intimately familiar with the technical details of the proposal and may be contacted for any

additional technical information that may be required during the Ministry's review of the application. This person would normally be the engineer responsible for the design of the works or a person having the authority to effect design changes if it is determined to be necessary in order to meet Ministry requirements.

**Note:** In accordance with the *Professional Engineers Act*, only properly licensed engineers may practise professional engineering in the Province of Ontario. As such, all engineering documentation associated with applications for approval must be prepared and properly certified by a Professional Engineer licensed in Ontario. For further details in this regard, please refer to the *Professional Engineers Act* and the regulations thereunder.

The following information about the Project Technical Information Contact is to be provided in this Section:

**5. Project Technical Information Contact - Complete A, B, D and E or A, C, D, and E**

A. Name		Company <input type="checkbox"/> Same as Client Name		
Contact Address B. Civic Address - Street information (includes street number, name, type and direction)		<input type="checkbox"/> Same as Client Mailing Address		Unit Identifier (identifies type of unit, such as suite & number)
C. Delivery Designator: <input type="checkbox"/> Rural Route <input type="checkbox"/> Suburban Service <input type="checkbox"/> Mobile Route <input type="checkbox"/> General Delivery		Delivery Identifier (a number identifying a Rural Route, Suburban Service or Mobile Route delivery mode)		
D. Municipality	Postal Station	Province/State	Country	Postal Code
E. Telephone Number (including area code & extension)		Fax Number (including area code)		E-mail Address

**Name** - this is the name of the individual to be identified by the Client as the Project Technical Information Contact.

**Company** - this is the name of the Company (e.g., a consulting engineering firm) that the person identified by the Client as the Project Technical Information Contact represents (if applicable).

**Contact Address** - this is the address under which the Project Technical Information Contact may be contacted **by mail**, and as the Client Mailing Address (see instructions for Section 3 "Client Mailing Address"), must include:

- **Civic Address** or **Delivery Designator and Identifier (Non-Civic Address)**,
- **Municipality** or **Postal Station**, and
- **Province/State**, **Country**, and **Postal Code**.

**Contact Telephone Number** - telephone number must be provided, and must including area code.

**Contact Fax Number** and **E-mail Address** - these should be provided if available.

## Section 6. Project Information

Project Information identifies the project for which approval is being sought. The following information is to be provided in this Section:

### 6. Project Information

Type of Application: <input type="checkbox"/> New Certificate of Approval <input type="checkbox"/> Amendment to current Certificate of Approval		Current Certificate of Approval Number	Date of Issue (y/m/d)	Transfer of Review Program <input type="checkbox"/> Yes <input type="checkbox"/> No	
Project Description Summary Project Description Summary (If EBR is applicable, this summary will be used in the EBR posting notice)		[water works application] [sewage works application]			
Project Name (Project identifier to be used as a reference in correspondence)		Receiver of Waste Stream Effluent Discharge [water works appl.] Receiver of Effluent Discharge [sewage works application]		Watershed Name	
Estimated date for start of construction/installation		Project Schedule Estimated date for start of operation			

**Type of Application** - this item provides choices for the Client to indicate whether the application is a request for a new Certificate of Approval or an amendment to an existing Certificate of Approval. The choice should be made based on the following:

- **New Certificate of Approval** - this choice is to be indicated if the proposed works are not associated with any existing works on the site of the proposed works, or there is no record of any previous approvals for the existing works,
- **Amendment to Existing Certificate of Approval** - this choice is to be indicated if the proposal involves (a) establishment of new works on the site of any existing previously approved works and the new works are to become part of the existing works, or (b) modifications to any previously approved works, or any (c) amendments to the terms or conditions of an existing approval.

**Existing Certificate of Approval Number and Date of Issue** - this are the number and date of issue of the existing certificate that is to be amended, and must be provided if “Amendment to Existing Certificate of Approval” is indicated in the “Type of Application” box. Also, a copy of the existing certificate and any previously issued amending Notices should be enclosed with the application in such a case.

**Transfer of Review Program** - in this box, the Client must indicate whether or not the application is being submitted through a designated municipal authority under the Transfer of Review Program. Choosing “No” in this box indicates that it is a Direct Submission (submission directly to the Ministry). For guidance on this issue please refer to Section 3 (“Where to File Applications”) in Part I of this Guide).

**Project Description Summary** - this is a brief description of the proposed new or additional works (including the size and/or treatment capacity of the works), and/or modifications to the existing works (including resulting change in the treatment capacity of the works, if applicable), and the source of water for water works and/or the receiver of the effluent for sewage works, and/or the requested changes to the terms and/or conditions of the existing approval. [Note: For

sewage works proposals subject to the EBR requirements, this description may be used as a proposal abstract that is to be posted on the Environmental Registry for public notification.]

**Note:** In addition to the Project Description Summary, a detailed description of the proposal should be enclosed with the application, as outlined in Part III of this Guide.

**Project Name** - this is a project identifier name by which the Client wishes the project to be identified in any correspondence from the Ministry in relation to the application for approval.

**Receiver of Waste Stream Effluent Discharge** (water works applications only) - this is the name of the lake or stream (if unnamed or if it is a drainage ditch or storm sewer or ground sub-surface, provide an identifying descriptor) into which the final effluent from the water treatment process waste stream treatment facilities is or is intended to be discharged, where applicable.

**Receiver of Effluent Discharge** (sewage works applications only) - this is the name of the lake or stream (if unnamed or if it is a drainage ditch or storm sewer or ground sub-surface, provide an identifying descriptor) into which the final effluent from the sewage works is or is intended to be discharged.

**Watershed Name** - this is the name of the lake or river into which drains the “Receiver of Effluent Discharge”.

**Project Schedule** - these are the planned dates for the commencement of the construction/installation and operation of the proposed works/facilities.

**Note:** These planned dates do not bind the Ministry, and although in some situations (e.g., works proposed to eliminate or reduce an existing health hazard or environmental problem) the Ministry will give consideration to these dates, generally, all applications for approval are processed chronologically in order of their receipt, and they should be filed well ahead of the planned date for the commencement of construction to allow for the required application processing time, as construction or operation of any water or sewage works without first obtaining an appropriate OWRA approval is an offence under the Act and is subject to prosecution. For guidance on this issue please refer to Section 2 ( “When to File Applications”) in Part I of this Guide.

## Section 7. Other Approvals/Permits

### 7. Other Approvals / Permits

List all other environmental approvals/permits applied for related to this project or received in relation to this project under the *Environmental Protection Act* (discharges to air, waste management, etc.) and the *Ontario Water Resources Act* (water works, sewage works).

In this section of the application form, the Client is to identify all other approvals and/or permits that are required for the proposed works under the Acts and Regulations administered by the Ministry of the Environment, namely the *Ontario Water Resources Act* and the *Environmental Protection Act*, and indicate whether these approvals/permits have been obtained or applied for.

For example, construction of a new water supply system, in addition to an approval under Section 52 of the OWRA, requires a Permit to Take Water under Section 34 of the OWRA, and

may require a Development Permit under section 24-(1) of the Niagara Escarpment Planning and Development Act if the system is to be located within the area designated by the Act, and an approval under Section 9 of the *Environmental Protection Act* (EPA) if the system requires a stand-by power diesel generator (i.e., equipment which may emit contaminants to the environment).

## Section 8. Public Consultation/Notification

### 8. Public Consultation/Notification

Specify all public consultation/notification (such as public hearings, notification of First Nations, etc.) related to the project that has been completed or is in the process of being completed.

In this section of the application form, the Client is to identify all public consultation and notification related to the project, such as public hearings, notification to the First Nations, notices in newspapers, etc., that has been completed or is in the process of being completed.

## Section 9. Environmental Bill of Rights (EBR) Requirements

**Note: This Section does not apply to Applications for Approval of Water Works**

In the Environmental Bill of Rights (EBR) Requirements section, the Client must indicate whether the proposal is subject to any requirements of the *Act Respecting Environmental Rights in Ontario Act*, also called the Environmental Bill of Rights (EBR), and if so, whether or not the proposal is believed to be excepted from the EBR public participation requirement, and for those believed to be excepted, the reason for the exception, as follows:

### 9. Environmental Bill of Rights Requirements

Is this a proposal for a Prescribed treatment under EBR?	If "Yes," is it excepted from public participation?	If it is excepted from public participation provide reason:	
<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Equivalent Public Participation	<input type="checkbox"/> Environmentally Insignificant Amendment or Revocation
		<input type="checkbox"/> Emergency	<input type="checkbox"/> EAA or Tribunal Decision
Documentation in support of the above noted exception must be provided (refer to "Guide")			

**Proposal for a Prescribed Instrument under EBR** - in this box, the Client must indicate whether or not the application is a proposal for an approval which is a prescribed instrument under the EBR. All types of EBR prescribed instruments (i.e., the types of instrument proposals subject to any EBR requirements) are listed and classified in Regulation 681/94, "Classification of Proposals for Instruments", issued under the *Act Respecting Environmental Rights in Ontario Act*.

**Note:** In accordance with Reg. 681/94, section 52 OWRA approvals (water works) are not EBR prescribed instruments, and a section 53 OWRA approval (sewage works) is an EBR prescribed instrument only if the proposed sewage works are crossing a municipal boundary or if the sewage works approval is intended to set new or increase existing limits on the discharge of specific contaminants from a discharge point to surface waters. [For further details, please refer to "Environmental Bill of Rights" in Appendix A of this Guide.]

**Proposal Excepted from Public Participation** - in this box, if the application is a proposal for an EBR prescribed instrument, the Client must indicate whether or not the proposal is believed to be excepted from the public participation requirement under the EBR.

**Note:** The EBR allows for exception from the public participation requirement only in the specific situations identified under the Reasons for Exception from Public Participation below, and if none of the allowed reasons is applicable, the proposal cannot be excepted from public participation.

**Reasons for Exception from Public Participation** - if the proposal is requested to be excepted from public participation, the Client must indicate which one of the situations identified by the EBR as legitimate reasons for exception from the public participation requirement is applicable to the proposal. One of the following options (reasons) provided in the application form must be checked, and where applicable, the required additional information must be provided:

- **Equivalent Public Participation (section 30, EBR)** - An equivalent public participation is a situation where all environmentally significant aspects of the proposal have already been considered in a process of public participation that was substantially equivalent to the requirements under the EBR.

**Note:** Where this situation is indicated as applicable to the proposal, the Client must include with the application an attachment providing details of the completed province-wide public participation including: type of the province-wide public participation, how it was conducted, number of people that participated, the type of public comments, actions taken as a result of the public comments, an indication whether or not this Ministry's staff were involved in the process, and documentation verifying the public participation.

- **Emergency (section 29, EBR)** - An emergency is a situation where the delay involved in giving notice to the public, allowing time for public response to the notice, or considering the response to the notice would result in danger to health or safety of a person, harm or serious risk of harm to the environment, or injury or damage or serious risk of injury or damage to a property.

**Note:** Where this situation is indicated as applicable to the proposal, the Client must include with the application an attachment providing information demonstrating that there is an emergency situation and that the proposal will alleviate the adverse effects of the emergency situation.

- **Environmentally Insignificant Amendment or Revocation (section 22, EBR )** -An environmentally insignificant amendment or revocation is a proposal for an amendment to, or revocation of, an existing approval which will have insignificant effect on the environment.

**Note:** Where this situation is indicated as applicable to the proposal, the Client must include with the application an attachment providing information demonstrating that the proposed amendment/revocation will have no significant impact on the environment.

- **EAA or Tribunal Decision (section 32, EBR)** - An EAA or tribunal decision is a situation where the proposal is a step towards the implementation of an undertaking proceeding in accordance with a completed environmental assessment process approved under the *Environmental Assessment Act* or a decision of a public tribunal which provided an opportunity for public participation. (All EBR subject sewage works undertaken by

municipalities or private sector developers also subject to and proceeding in accordance with the requirements of the EAA fall within this definition of an excepting situation.)

**Note:** Where this situation is indicated as applicable to the proposal, the Client must provide proof of completion of the applicable environmental assessment process, or a copy of the tribunal decision.

**Note:** For further clarification on the issues of EBR, please refer to “Environmental Bill of Rights” in Appendix A of this Guide, or the Ministry publication entitled “The Requirements of the Environmental Bill of Rights for Prescribed Instruments”.

## Section 10. Environmental Assessment Act (EAA) Requirements

In the *Environmental Assessment Act* (EAA) Requirements section, the Client must indicate whether the proposal is subject to the EAA, and if so, how the applicable EAA requirements have been fulfilled. One of the following options provided in the application form must be checked, and where applicable, the required additional information must be provided:

### 10. Environmental Assessment Act (EAA) Requirements

<input type="checkbox"/> The works for which this application is made have fulfilled all requirements of the EAA through the completion of: Class EA for Municipal Water and Wastewater Projects has been completed in accordance with the procedure set out in: <input type="checkbox"/> Schedule A <input type="checkbox"/> Schedule B <input type="checkbox"/> Schedule C
<input type="checkbox"/> The works are exempt from requirements of the EAA under: <input type="checkbox"/> Section _____ of the Ontario Regulation No. _____ <input type="checkbox"/> Exemption Order _____ <i>If Regulation or Exemption Order does not refer directly to these works, state in covering letter or other document why it does apply to the works.</i>
<input type="checkbox"/> The works are proceeding in accordance with the Environmental Assessment Process Approval Notice specified below: _____ _____
<input type="checkbox"/> The works are not subject to EAA for the reason specified below: _____ _____

- The undertaking is subject to the *Environmental Assessment Act* and is **proceeding under the “Class Environmental Assessment for Municipal Water and Wastewater Projects”** (Class EA) prepared by the Municipal Engineers Association of Ontario [Note: Schedule A, B or C, under which the undertaking is categorized in the Class EA document with respect to the magnitude of its potential environmental impact, must be identified.]
- The undertaking is subject to the *Environmental Assessment Act* but **exempt from its requirements under a Regulation or an Exemption Order made under the EAA**. [Note: The applicable exempting Regulation or Order must be identified. If the Regulation or Order does not refer to the proposed works directly, the Client must enclose with the application a written rationale for the assumption that Regulation or Order does apply to the works.]
- The undertaking is subject to the *Environmental Assessment Act* and is **proceeding under an individual EA process approved by an Environmental Assessment Process Approval Notice**. [Note: The Notice must be identified in the space provided, and a copy enclosed with the application.]
- The undertaking is **not subject to the EAA**. [Note: The Act stipulates that a project is subject to the requirements of the EAA if it is undertaken by a provincial or municipal

government or any of their agencies, or if the project is specifically designated by the EAA, or a regulation issued under the EAA, to be subject to the requirements.]

**Note:** Under the *Environmental Assessment Act* (EAA) it is prohibited to grant an approval under any Ontario statute for an undertaking subject to the EAA unless all applicable requirements of the EAA have been first satisfied. Applications for OWRA approval for proposals subject to the EAA requirements will be closed (cancelled) if it is determined that the applicable Environmental Assessment (EA) process has not been completed. For further clarification of the requirements of the EAA, please refer to “Environmental Assessment Act (EAA)” in Appendix A of this Guide.

## Section 11. Supporting Information Checklist

The Supporting Information Checklist includes all major types of information and documentation which may be required in support of an application for approval of water or sewage works. [Note: A detailed outline of the supporting information and documentation requirements for various types of water and sewage works proposals is provided in Part III of this Guide.]

The Checklist must be completed as follows:

### 11. Supporting Information Checklist - This is a list of all supporting information to this application and is subject to the FOIPPA and EBR.

Supporting information	Attached	Reference	Can be disclosed
General			
	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No
Technical			
	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....	<input type="checkbox"/> Yes <input type="checkbox"/> No
Other Attached Information	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No

- For all its items of the Checklist (i.e., all listed types of supporting information), the Client must indicate in the **"Attached" column** whether or not the particular type of information is enclosed with the application. This ensures that, where a particular type of information is not submitted with the application, it is not by omission but because the Client has determined that the type of information is not relevant to the proposal.
- For all submitted (“attached”) supporting information, the Client must identify in the **"Reference" column** the attachment which contains the information (e.g., report name and chapter/page number, or drawing title, number, revision number and date), and indicate in the **"Disclosable" column** whether or not the Client considers the submitted information confidential. [Note: For clarification on the issue of confidentiality and release of information, please refer to “Public Notification and Access to Application Information” in Part I of this Guide]
- For any submitted supporting information which does not fall within the definition of any of the specific items of the Checklist, the Client should identify it in the "Other Attached Information" item, and complete the item as above.



- Where the Client wishes the Ministry to consider as supporting information for the application any information submitted previously (e.g., with another application), the "Attached" column of the item should be checked as "No", and the "Reference" column must identify the Certificate of Approval number and the associated document which contains the information.

## Section 12. Application Fee

Application Fee is the processing fee required in order to recover cost incurred by the Ministry in processing the application for approval. The fee applicable to a particular application is established in accordance with the Ontario Regulation 364/98 entitled "Regulation Made Under the Ontario Water Resources Act - Fees - Approvals". The Regulation sets out in detail the fee components applicable to various types of applications for approval.

The Application Fee table of the application form must be completed based on the **Summary of Sewage Works Application Costs, or Summary of Water Works Application Costs sheet, whichever is applicable, enclosed with the application form** (also provided in Appendices E and F of this Guide), as follows:

### 12. Application Fee

Category Code	Category Description	Amount	Quantity	Sub Total
				Total:

**Category Code and Category Description** - these are identifiers of an individual aspect of a particular type of application for approval (cost category) to which a separate fee applies, as shown in the Summary of Cost sheet. All cost categories applicable to the particular application for approval must be listed in the Application Fee table, including the categories which indicate no fee (i.e., \$0).

**Amount** - this is the individual fee amount applicable to the individual cost category, as shown in the Summary of Cost sheet.

**Quantity** - this is the number indicating how many individual facilities or systems under a particular cost category are the subject of the application for approval (e.g., if the application involves two pumping station, the category applicable to a pumping station applies two times, i.e., the quantity is "2").

**SubTotal** - this is the total amount of fee under a particular cost category applicable to the application for approval.

**Total** - this is the total fee amount for the application for approval, i.e., the Application Fee.

**Note:** For further clarification the Client should also refer to the Regulation or to the applicable Application Cost Guide available from the Ministry, that is:

**Guide - Application Costs for Water Works, s.52, Ontario Water Resources Act. Ministry of the Environment, or**

**Guide - Application Costs for Sewage Works, s.53, Ontario Water Resources Act. Ministry of the Environment.**

### **Section 13. Statement of Client**

Statement of Client is the Client's affirmation that to the best of his/her knowledge, the information provided in the application form and the submitted supporting documentation is accurate and complete, and that the person identified in the application as the Project Technical Information Contact is authorized to act on the Client's behalf for the purpose of obtaining approval for the proposed works. This section must be completed as follows:

#### **13. Statement of Client**

I, the undersigned hereby declare that, to the best of my knowledge, the information contained herein and the information submitted in support of this application is complete and accurate in every way and that the Project Technical Information Contact identified in section 5 of this form is authorized to act on my behalf for the purpose of obtaining approval under Section 53 of the OWRA for the sewage works identified herein.	
Name ( <i>please print</i> )	Title
Signature	Date ( <i>y/m/d</i> )

**Name**, and **Title** - these are the name and title of the Client (if the Client is an individual or a sole proprietor), or an individual authorized to sign documents on behalf of the Client.

**Note:** If the person signing the application is not the Client who is an individual or a sole proprietor, or where the Client is a corporation and the person signing the application is not an officer of the corporation identified in the documents of incorporation (e.g., President, CEO, CAO, Municipal Clerk), the Client's written authorisation for the person signing the application must be enclosed with the application. For example, in case of a partnership, if one of the partners is signing the application, that person must be authorized by the other partners to do so on their behalf.

**Signature**, and **Date** - the application must be signed and dated by the person identified above.

**Note:** It is an offence under Section 98 of the *Ontario Water Resources Act* to knowingly give false information to the Ministry of the Environment with respect to matters under the OWRA.

### **Section 14. Statement of Municipality**

**Note:** This Section does not apply to applications where the Client (applicant) is the Municipality within whose jurisdiction the works which are the subject of the application are, or are to be, located.

Statement of Municipality is a declaration by the Municipality within whose jurisdiction the works which are the subject of the application are, or are to be, located, that the Municipality has no basic objections to the application.

**Note:** This declaration is required to establish the Municipality's general concurrence with the proposal, to ensure that the proposed works would not contravene any municipal by-laws or other requirements, but it does not imply technical approval or acceptance of responsibility for the works.

Where the proposed works are, or are to be, connected to an existing municipal water supply and distribution system and/or sewage collection, treatment and disposal system, this municipal concurrence with proposed works means that the Municipality has assured itself that the proposed works:

- would be served adequately by the municipal sewage collection, treatment and disposal system, and would not result in exceedence of the uncommitted hydraulic and treatment capacity of the sewage collection, treatment and disposal system to comply with the effluent quantity and quality requirements specified in the existing Certificate of Approval for the system; and
- would be served adequately by the municipal water supply and distribution system and would not result in exceedence of the uncommitted capacity of the water supply and distribution system to supply water of sufficient pressure, quantity and quality both in terms of public health and aesthetic requirements as specified in the existing Certificate of Approval.

The Statement of Municipality section must be completed as follows:

**14. Statement of Municipality**

Name and Title ( <i>please print</i> )	Name of Municipality
Signature	Date ( <i>y/m/d</i> )

**Name and Title** - these are the name and title of a municipal official (e.g., municipal clerk) authorized to sign documents on behalf of the Municipality within whose jurisdiction the works which are the subject of the application are, or are to be, located.

**Name of Municipality** - this is the name of the Municipality within whose jurisdiction the works which are the subject of the application are, or are to be, located.

**Signature**, and **Date** - the application must be signed and dated by the person identified above.

## **Part III - SUPPORTING INFORMATION REQUIREMENTS**

### **1. ENVIRONMENTAL IMPACT ANALYSIS**

#### **1.1 Environmental Impact - Sewage Works**

The most important aspect of the environmental impact considered in the assessment of any proposed sewage works is the anticipated impact of the works' final effluent on the receiver (i.e., surface water body, land area, soil and/or ground water aquifer) and its potential users.

**Note: It is the responsibility of the proponent to assess the assimilative capacity, and determine the actual and potential uses of the intended receiver of the effluent from the proposed works, and derive from this analysis the effluent quality and discharge regimen criteria for the proposed works. The effluent criteria should be prepared in consultation with staff of the Technical Support Section of the appropriate Regional Office of the Ministry as that Office's concurrence with the criteria is prerequisite for any proposed works to be approved.**

All proposed undertakings which may result in any change in the quality and/or quantity of effluent from existing sewage works must be assessed in terms of the receiver's assimilative capacity and uses. In the case of an existing sewage treatment plant where the receiver assimilative capacity has been previously established, any proposed works that may affect the performance of the treatment plant must be assessed in terms of the previously established effluent compliance criteria and the approved rated capacity of the treatment plant. Expansions of existing sewage treatment and disposal works would usually require re-assessment of the receiver's assimilative capacity and development of new effluent criteria. The need for such a re-assessment of the assimilative capacity of the receiver should be established by the Proponent in pre-application consultation with the District and Regional staff of the Ministry.

The assessment of the assimilative capacity of the receiver must be done at the beginning of the planning and design process as part of the problem identification phase of the project. The effluent requirements based on the assessment should serve as one of the criteria for comparison of alternative solutions to the identified problem. Established effluent quality and quantity criteria are especially essential in the development of design alternatives for the contemplated sewage treatment and/or disposal works. If the eventually established sewage works are to meet the established effluent criteria on a consistent basis, the criteria must be available before the commencement of design and must form the basis of design.

##### **1.1.1 Assimilative Capacity of the Receiving Water Body**

For new or expanded sewage treatment works and for water works wastewater disposal, the assimilative capacity, and existing and potential downstream use of the receiver must be assessed. The requirements for the assimilative capacity study must be discussed with the Technical Support Section of Ministry's appropriate Regional Office. The requirements may vary from site to site, but usually, the proponent must provide the following information:

- Limiting conditions within the receiving water body, including:
  - low flow conditions in the receiving water body, e.g., the stream's 7Q20, i.e., the 7-day average low flow occurring in the stream once in 20 years;
  - the 75th percentile background concentration for each parameter of concern;
  - the maximum allowable downstream increase for each parameter of concern, e.g., the difference between the background level and the Provincial Water Quality Objectives (PWQO) in accordance with the Ministry Guidelines B-1 and B-2; and
  - a proposed waste load allocation for the facility based on the entire watershed and watershed users (downstream/upstream).
- Proposed effluent quantity and flow rate (design daily/monthly flow), and actual historical average daily/monthly flow based on at least one year monitoring data, if available.
- Proposed effluent quality expressed as the maximum expected daily/monthly loading at design flow and highest expected concentration in the effluent under normal operating conditions for all parameters of concern.
- Receiver impact analysis including:
  - methods proposed to be used to reduce impact of the effluent on the receiving water body, e.g., use of diffusers, effluent and receiving water density considerations, discharging at rates proportional to stream flow, etc.; and
  - in-stream monitoring programs to ensure that information is available to assess actual impact of the effluent discharge upon start-up of operation of the proposed works.
- Proposed receiver mixing zone defined as "the area of water contiguous to the point source where the water quality does not comply with the Provincial Water Quality Objectives", which should be mapped for the proposed maximum effluent discharge rate. **[Note: Whether or not it is acceptable to create such a mixing zone for a particular project, depends on sensitivity of the receiver. The restrictions regarding mixing zones in a particular receiver should be confirmed with the Technical Support Section of Ministry's appropriate Regional Office.]**

### 1.1.2 Assimilative Capacity of the Groundwater Aquifer

For works with sewage effluent disposal on land and into the ground (spray irrigation systems, exfiltration/infiltration lagoons, leaching beds, and deep injection wells) which may have any impact on the groundwater aquifer, the proponent must undertake a groundwater impact analysis. The requirements for the assimilative capacity study of groundwater aquifer must be determined through discussions with the Technical Support Section of Ministry's appropriate Regional Office. The requirements may vary from site to site, but usually, the proponent must provide the following information supported by appropriate studies:

- Expected rate of contaminants discharge to the groundwater.
- Background levels of contaminants in the groundwater.

- Estimated allowable amount of degradation based on the current and potential future uses of the groundwater in accordance with the Ministry's Guideline B-7 entitled "Incorporation of the Reasonable Use Concept into MOEE Groundwater Management Activities".
- Proposed measures to be taken to reduce or prevent groundwater contamination.
- Proposed monitoring program to assess the effectiveness of the proposed groundwater aquifer contamination control measures.

## 1.2. Environmental Impact - Water Works

Public health is the major aspect of the environmental impact analysis in case of water works proposals. All proposed water works are assessed with respect to their capability to treat raw water from the proposed source of water supply and deliver to the consumer adequate quantity of treated water consistently meeting the requirements of the **Ontario Drinking Water Standards**.

Another aspect of the environmental impact analysis of water works is analysis of the effect of water withdrawal from the water source at the proposed quantity and flow rate on the availability of water to existing users of the water source.

The acceptability of the proposed rate and quantity of water withdrawal from the proposed source of water supply is established by the Ministry separately from the water works approval process through the Permit to Take Water (PTTW) program administered by the Regional Offices of the Ministry. This acceptability of the proposed rate and quantity of water withdrawal, i.e., the availability of the required amount of source water, must be established before the water works designed to withdraw and process that amount of water can be designed.

**Note: An application for approval of water works involving a new water intake/well or an existing intake/well with a change in quantity or rate of source water withdrawal will not be accepted for review unless a valid PTTW issued by the appropriate Regional Director of the Ministry under Section 34 of the *Ontario Water Resources Act (OWRA)* is submitted with the application for approval as part of the supporting documentation.**

The disposal of any wastewater generated in the process of the operation of the water treatment plant (e.g., filter backwash) is also an aspect of the environmental impact of water works. Any such wastewater is sewage in the understanding of the OWRA, and its disposal requires approval under Section 53 of the Act. This aspect of the water works may also be approved as part of the overall water treatment plant works under Section 52 of the OWRA, however, similarly to the sewage works impact assessment process mentioned above, it requires establishment of effluent criteria acceptable to the appropriate Regional Office of the Ministry.

## 2. DESIGN GUIDELINES AND OTHER REFERENCE DOCUMENTS

The following publications prepared by the Ministry, or with the participation of the Ministry, are recommended to be consulted in the design of water and sewage works:

- Guidelines for the Design of:
  - Water Treatment Works (MOE, April 1982)
  - Sewage Treatment Works (MOE, July 1982)
- Guidelines for the Design of:
  - Sanitary Sewage Systems (MOE, July 1985)
  - Storm Sewers (MOE, July 1985)
  - Water Distribution Systems (MOE, July 1985)
  - Water Storage Facilities (MOE, July 1985)
  - Servicing in Areas Subject to Adverse Conditions (MOE, January 1985)
  - Water Supply for Small Residential Developments (MOE, March 1985)
- Manual of Policy, Procedures and Guidelines for Onsite Sewage Systems (MOE, May 1982)
- Stormwater Management Practices Planning and Design Manual (MOEE, May 1994)
- Stormwater Quality Best Management Practices (MOE, June 1991)
- Interim Stormwater Quality Control Guidelines for New Development (MNR, and MOE, May 1991)
- Guidelines on Erosion and Sediment Control for Urban Construction Sites (MNR, MOE, MMA, MTC, ACAO, MEA, and UDIO, May 1987)
- Urban Drainage Design Guidelines (MNR, MOE, MMA, MTC, ACAO, MEA, and UDIO, April 1987)
- Recommended Standards for Wastewater Facilities (GLUMRB, 1997)\*
- Recommended Standards for Water Works (GLUMRB, 1997)\*

\*The Ministry is a member of the Great Lakes-Upper Mississippi River Board of Public Health and Environmental Managers (GLUMRB), and participates in the development of and subscribes to the Board's recommendations for sewage and water works standards known as the "Ten States Standards".

**Note: The above publications should not be confused with regulations or standards which must be adhered to in order to obtain a Certificate of Approval. It is not the intention of the Ministry to stifle innovation, and if the design engineer can demonstrate that all environmental and public health protection requirements can be satisfied on a consistent basis by the proposed works, such a proposal will be considered for approval.**

### 3. DOCUMENTATION AND INFORMATION REQUIREMENTS

It is recognized that the process of planning and engineering design of sewage and water works varies with the size and complexity of the undertaking, and not all items of documentation listed in the Supporting Information Checklist section of the application form may be required for a particular project.

In that, the multi-stage process of planning and design of complex municipal works such as new water treatment plants or sewage treatment plants will involve preparation of a number of separate documents including an Environmental Study Report (ESR - a requirement of the *Environmental Assessment Act*), a Preliminary Engineering Report (which may be part of the ESR), a Design Brief (basis of detailed engineered design), Final Plans (engineering drawings), and Specifications (construction process, materials and equipment).

On the other hand, the design of a watermain extension may only require preparation of a single engineering drawing with the basis of design and specifications included on its face.

The information required to be submitted in support of applications for approval of various types of sewage and water works is outlined below in the form of individual documents normally prepared in the process of planning and design of complex sewage and water works. However, it is not necessary to submit such separate documents provided all pertinent information is included in the submission.

**Note:** When requesting an approval in principle for works whose detailed engineering design has not been finalized, i.e., approval subject to approval of final plans and specifications (see Part I of this Guide for information as to when such an approval may be issued), the application should contain, as a minimum, the information outlined below under the heading Preliminary Engineering Report.

#### 3.1 SEWAGE WORKS INFORMATION

##### 3.1.1 Sewage Works - Preliminary Engineering Report

If a Preliminary Engineering Report is being submitted for a proposed sewage works, it should present the following information, **where applicable**:

- Description of the proposal, and where applicable, a description of the associated existing sewage works.
- Discussion of the assimilative capacity of the receiver (e.g., lake, river, groundwater aquifer, soil, vegetation) and the proposed effluent quantity and quality criteria, i.e., effluent discharge/application regimen, and contaminant concentrations and loadings supported by appropriate receiver impact analysis studies, or where applicable, a reference to the Environmental Study Report (ESR), if all these issues were already addressed in that document.



- Extent, nature and anticipated population and population densities of the area to be serviced, facilities proposed to serve the area, and provisions for future expansion of the system to include additional service areas and/or population growth , or where applicable, a reference to the Environmental Study Report (ESR), if all these issues were already addressed in that document.
- Itemization and discussion of present and future average and peak domestic, commercial, institutional and industrial sewage, and extraneous flows to the proposed works, or where applicable, a reference to the Environmental Study Report (ESR), if all these issues were already addressed in that document.
- Discussion of raw sewage characteristics and possible effect of any toxic substances which may be present or added (e.g., shock loading of hauled septage proposed to be accepted at the plant) and require special treatment. Wherever possible, the variation in sewage strength should be substantiated by data from sampling surveys or treatability studies.
- Discussion of adequacy of the proposed sewage treatment and effluent disposal facilities for the anticipated raw sewage quantity and characteristics in terms of the developed effluent quantity and quality criteria. This discussion should include a summary of basic process design parameters of all major components of the treatment and disposal facilities, including operational reliability of key process units, unit redundancy, and back up reliability.

**Note: The discussion of adequacy of the effluent disposal facilities must be supported by appropriate studies; e.g., effluent dispersion calculations for outfall diffusers; site topography, vegetative cover and soil assessment for spray irrigation systems, chemical and hydraulic assessment of the unsaturated soil strata of the site for exfiltration and rapid infiltration lagoons; and assessment of the site topography and the chemical and hydraulic characteristics of the unsaturated soil strata for absorption beds (i.e., leaching beds and similar subsurface disposal methods).**

- Discussion of the proposed sludge management, including sludge treatment, storage, and utilization or disposal program. Where off-site sludge utilization or disposal is proposed, evidence must be provided that such utilization/disposal is available.
- Discussion of the proposed flow metering, sampling and monitoring program, including monitoring of bypasses and overflows.
- Brief discussion of the location of all significant sewage works structures with respect to the land use in surrounding areas, especially in consideration of noise and odour generation potential; and susceptibility to flooding.
- Discussion of any anticipated wet weather bypass and overflow conditions (i.e., possibility, frequency, volumes, quality and impact on the receiving water) and approaches to be used to avoid or minimize bypassing and overflows.

- Assessment of the need to provide stand-by power facilities for the works (sewage treatment plants and pumping stations) in accordance with Appendix I of the Ministry publication "Guidelines for the Design of Sanitary Sewage Systems (July 1985), etc."
- Discussion of the design criteria used for the proposed storm and sanitary sewers, including design flows. For combined sewers, in addition to the sewer design criteria, the information should include an analysis of the impact of the proposed sewers on the operation of the down-stream combined sewer overflows (CSO's).

**Note: No new combined sewer systems, new CSO's within the existing systems or increased volume of overflows at the existing CSO's will be allowed. Further, any extension of the existing combined sewer systems is discouraged, and wherever feasible, separate stormwater collection and disposal systems must be provided for the extension areas (justification must be provided where this cannot be achieved).**

- Description of proposed pumping stations, including location of the pumping station and forcemain (including point of discharge), number and capacities of duty and standby pumps and provision of station by-pass and emergency overflow facilities (including identification of the proposed receiver for the station's emergency overflow; and an assessment of the capacity of the down-stream sewers, pumping stations and treatment plant to handle the pumped flows.

**Note: All sanitary and new combined sewage pumping stations must be designed to handle all incoming flows, and the emergency overflow facilities are intended to handle true emergencies only, i.e., those resulting from a system failure or upset.**

- Description of any proposed stormwater management and/or treatment facilities, including analysis of stormwater flows, methods for stormwater source controls, retarding runoff, routing and regulating flows through and in the collection system, retention and detention of stormwater, proposed methods of treatment; and description of Water Quantity and Quality Targets as documented in the official Watershed and/or Sub-Watershed Plans.

**Note: Where Watershed and/or Sub-watershed Plans have not been developed for the area, other guidelines and/or plans should be used, e.g., Ministry of Natural Resources Fishery Plans, Conservation Authority's Erosion and Sediment Control Plans, or the "Interim Stormwater Quality Control Guidelines for New Development". In those cases, the appropriate local Municipality or Conservation Authority should be contacted to establish the need for any stormwater management, and the Technical Support Section of the Ministry's appropriate Regional Office should be contacted to establish the need for any stormwater quality control. Recommendations of these authorities must be referenced in the submission of applications for approval.**

- Discussion of the planning for any future extensions and/or improvements to the sewage works.
- Preliminary design plan(s), all bearing the project title, name of the municipality, name of the development or facility with which the project is associated, name of the design Engineer and preparation date, and where applicable also the plan scale, north point, land surveying

datum, and any municipal boundaries within the area shown, providing the following information (where pertinent):

- general layout of existing and proposed storm and sanitary sewers (including drainage areas), and location of all major components of other existing and proposed sewage works, including all effluent discharge and sewage overflow points,
- all existing and future water works that could be affected by the proposed sewage works (e.g., wells, water intakes, watermains),
- existing and future development in the vicinity of the works (except for sewers),
- general layout (line diagram) of the works (except for sewers),
- process flow diagrams for all treatment processes, showing all process components, the direction of flow of all processed sewage, recycle and waste streams, the location of all chemical addition points; and the maximum and average flow rate of all streams entering and leaving each component of the process and a mass balance for all design parameters around each process component.

### **3.1.2 Sewage Works - Design Brief (Basis of Design)**

A design brief, summarizing the design criteria and presenting the design calculations used in sizing individual components of the works, should be submitted along with final plans and specifications .

**Note: Where a preliminary report has not been or is not being submitted for the project, or where some parts of the information in the earlier submitted preliminary report is no longer valid or applicable, the design brief should include the information outlined above under the heading Preliminary Engineering Report as well as the applicable information outlined below.**

If a Preliminary Engineering Report has been submitted for the proposed sewage works, the design brief for the particular type of sewage works should include the information outlined below.

#### **3.1.2.1 Design Brief - Sanitary Sewers**

- Population served (current and design) and per hectare population densities.
- Area served (current and design) in hectares.
- Per capita sewage flows.
- Infiltration allowances expressed in cubic metres per day per hectare.
- Industrial and commercial flows.
- Design flow rates, i.e., peak sewage flow, including infiltration and industrial and commercial flows, for local, interceptor and trunk sewers.

- Capacity of the existing down-stream sewers, pumping stations and treatment plant to receive the design flow from the proposed sewers.
- Design data and calculations for individual sewers, including the required capacity, sewer slope, roughness coefficient, pipe capacity, flow velocity when full, depth of flow and actual flow velocity at peak design flow if depth of flow is less than 0.3 of the pipe diameter.
- Minimum separation distance from watermains provided.

### **3.1.2.2 Design Brief - Storm Sewers**

- Identification of sub-drainage areas and their runoff coefficients.
- Design rainfall frequency and intensity.
- Generated flows and capacity of sewers selected.
- Capacity of the receiving watercourse or existing storm sewers at each discharge point to accept the anticipated design flows.
- Design data and calculations for individual sewers, including the required capacity, sewer slope, roughness coefficient, pipe capacity, flow velocity when full, depth of flow and actual flow velocity at peak design flow if depth of flow is less than 0.3 of the pipe diameter.
- Minimum separation distance from watermains provided.

### **3.1.2.3 Design Brief - Sewage Pumping Stations**

- Location of the proposed pumping station, and identification of the intended receiver of the discharge (sewer, another pumping station or sewage treatment plant).
- Population and area [hectares] serviced (current and design).
- Per capita sewage flows.
- Design flow rates, i.e., peak sewage flow including infiltration and industrial and commercial flows, for initial and design conditions.
- Type of pumping station and facilities provided.
- Length, size and type of material of the pumping station's forcemain, flow velocity in the forcemain under initial and design flow conditions, together with calculations of the total dynamic head requirements of the pumps, and evaluation of transient pressure conditions.
- Number and type of sewage pumps, and their individual and combined capacities (capacity ranges for variable speed pumps) at the design dynamic pumping head (pump and system

curves should be provided), and the type, power and speed (or speed range) of pump motors.

- Details on sizing and installation of the stand-by power generator (where required).
- Details of pump control and alarm system, and any screening, grit removal or comminution facilities.
- Number and storage capacity of wet-well compartments, and the station's time to overflow under minimum and peak flow conditions.
- Wet well operating level and its relationship to inlet sewer minimum flow velocity when inlet sewer is submerged.
- Wet well emergency overflow elevation in relation to basement elevations in the area upstream of the pumping station.
- Capacity of the station's emergency overflow and/or by-pass facilities, and name of the receiver of emergency overflows and description of the overflow discharge route.
- Documented evidence of the capacity of the down-stream sewage works (receiving sewers, pumping station and/or sewage treatment plant) to handle adequately the sewage flow from the proposed pumping station, and if there are any existing overflows within the downstream sewage works, it must be shown that the addition of flows from the proposed pumping station will not result in any increase in frequency or volume of currently occurring overflows.
- Description of the flow monitoring and recording equipment, and other equipment proposed to be provided, e.g., heating and ventilation, sump pumps.

#### **3.1.2.4 Design Brief - Stormwater Management**

- Identification of the drainage area and the receiving water body.
- Summary of the design criteria (e.g., minimum stream baseflow, maximum stream peak flow, land use restrictions, i.e., maximum percentage of imperviousness, minimum watercourse buffer strips, required level of treatment, etc.) and identification of their sources (i.e., Master Drainage Plan, Watershed Plan and/or Sub-Watershed Plan) or names of the authorities (Municipality, Conservation Authority, Ministry of Natural Resources, Ministry of the Environment) who established or approved the design criteria.
- Summary of design storms and flows generated for pre-development, uncontrolled post-development, controlled post-development conditions with hydrographs, including the methodology used for calculations (computer models, rational method, runoff coefficients etc.).

- Hydraulic capacity of the receiving watercourse, swale, natural channel or existing storm sewers to accept the design flows, including water balance calculations for determining the receiving stream baseflow.
- Identification of the type of the proposed stormwater detention facility, e.g., roof top, parking lot, underground storage (oversized sewer, detention tank), detention pond (wet and/or dry) or infiltration pond.
- Identification of the type of the proposed stormwater quality control facilities, e.g., on-lot source control, infiltration (i.e., perforated pipes, trenches, swales, basins, etc.), stormwater ponds (i.e. wet, extended wet, extended dry), wetlands, disinfection facilities.
- Description and design details (including calculations) of the stormwater management works, including minor and major stormwater conveyance systems and stormwater quantity and quality control facilities, together with the discharge control and emergency overflow features, and any temporary and permanent erosion and sediment control facilities.
- Hydraulic routing of the design and major (i.e., 100-year or Regional) storms through the works, including hydrographs.
- Detailed description of the proposed operation and maintenance procedures for the works, including an agreement between the local Municipality and the proponent outlining a maintenance program that contains the name of operating authority or the person responsible for the maintenance and operation.

### **3.1.2.5 Design Brief - Sewage Treatment and Disposal Works**

- Basic data on the volume and composition of the wastewater anticipated from the population and area to be served including:
  - design period;
  - design service population and area [hectares], and population density;
  - estimated quantities and characteristics of the domestic sewage, industrial wastewater (including identification of all major industrial categories and wastewater characteristics, especially those contaminants that may affect the sewage treatment process), septage, landfill leachate, inflow and infiltration, and stormwater (combined sewer systems); and
  - total design sewage flow (minimum, average, peak), and waste concentration and loadings.
- Summary of the proposed effluent quantity and quality criteria, i.e., effluent discharge/application regimen, and contaminant concentrations and loadings (objectives and compliance criteria, including identification of the receiver.
- Description (types, number and sizes) of all treatment units and equipment, and effluent disposal facilities; and identification of their process design parameters (i.e., velocities and surface settling rates in grit removal units; surface settling, solids loading, and weir overflow rates, and depths and detention times in clarifiers; volumetric and organic loading in septic

tanks; anticipated BOD and SS removals in septic tanks and primary and final clarifiers; organic loading to aeration tanks, lagoons, biological contactors, etc; aeration rates of aeration systems; capacity of phosphorus removal chemical application system; filtration and backwash rates of effluent filters; capacity of chlorination facilities and detention time provided by chlorine contact tank; irradiation capacity of U.V. disinfection system; outfall diffuser exit velocities at initial and ultimate sewage flow; effluent application rates and schedules for spray irrigation, rapid infiltration and subsurface disposal system; sludge (primary, chemical and waste activated) volumetric production rates; volatile solids loading rate, detention time, capacity of heat exchangers and mixers, and gas storage capacity in primary anaerobic digesters; sludge retention time and aeration system capacity in aerobic digesters; volume and available storage [months] in sludge holding tanks; capacity of sludge thickening and dewatering equipment and its efficiency; capacity of sludge incineration facilities; etc.).

- Detailed process design (or sizing) calculations for all treatment units and equipment and effluent disposal facilities.
- Analysis of the process impact of recycling of plant secondary streams such as sludge thickener and digester supernatant, heat treatment decant liquor, sludge dewatering centrate, etc.
- Hydraulic calculations for all process streams within the sewage treatment plant, influent works and the plant outfall sewer and diffuser and other effluent disposal facilities (spray irrigation, rapid infiltration, subsurface disposal) under minimum and maximum flow rates.
- Description of the proposed flow metering, sampling and monitoring equipment, procedures and schedules, including monitoring of any plant or unit by-passes.
- Description of the existing facilities (for expansion or upgrading projects at existing sewage works), including pertinent process and hydraulic design data, and discussion of their adequacy in terms of the new design criteria (existing facilities may need to be de-rated or upgraded).
- Identification of all air pollution (including odour and noise) sources (e.g., open tankage, boiler stacks, internal combustion engines, incinerators, air blowers, etc.) together with the distances from the points of emission to the property lines and the nearest private residence.
- Description of the steps proposed to be undertaken during construction of expansion and upgrading projects at existing treatment facilities to ensure uninterrupted and adequate treatment of all incoming sewage throughout the construction process.
- Where the proposed works incorporate processes that are innovative or in an experimental stage, or include equipment and materials where the available data from full scale operation is limited or unreliable, the following information must also be provided:
  - all available data pertaining to the proposed process, equipment or material;

- results of any testing programs which have been undertaken by independent testing agencies, research foundations, universities, etc.;
- identification of any known full-scale applications of the proposed process/equipment/material, including a description of the type of application and the name and address of the person who could be contacted for technical information on the application;
- discussion of the impact of a potential failure of the proposed process/equipment/material; and identification of the measures proposed to be undertaken to preclude any health or environmental hazard or approval non-compliance as a result of such a failure; proposed contingencies to modify or replace the proposed process/equipment/material in case of their failure; and liabilities associated with the proposal;
- description of the monitoring, testing and reporting program proposed to be undertaken during the experimental period; and
- the proposed duration of the experiment.

### **3.1.3 Sewage Works - Final Plans**

All final plans submitted in support of applications for approval of sewage works must bear the project title, name of the municipality, name of the development or facility with which the project is associated, and name of the design Engineer, including a signed and dated imprint of his/her registration seal, and where applicable, also the plan scale, north point, land surveying datum, and any municipal boundaries within the area shown.

Detail engineering plans should include plan views, elevations, sections and supplementary views which, together with the specifications and general layout plans, would provide the working information for finalizing of the construction contract for the works. These drawings should show dimensions and relative elevations of structures, the location and outline of equipment, location and size of piping, ground elevations, and liquid/water levels at the minimum and maximum flow conditions.

#### **3.1.3.1 Final Plans - Storm and Sanitary Sewers**

##### **3.1.3.1.1 general plan**

A comprehensive general plan of the existing and proposed sewage works should be submitted for projects involving new sewage collection systems or substantial additions to existing systems. This plan should show:

- all major topographic features including existing and proposed streets, contour lines at suitable intervals, drainage areas, watercourses, municipal boundaries, land surveying datum used (or assumed bench mark), etc.;
- location and size of existing and proposed sewers; and
- location and nature of all existing and proposed sewage works associated with the proposed sewers, including any existing sewer overflows.



### **3.1.3.1.2 detail engineering drawings**

Detailed plan and profile drawings should be provided for the proposed and adjacent existing sewers. The profiles should have a horizontal scale of not more than 1:1000 and a vertical scale of not more than 1:100. The plan view should be drawn to a corresponding horizontal scale. Detail engineering drawings should show:

- location of streets and sewers;
- existing and proposed ground surface, shape, size, slope, material and class of pipe, pumping stations, manholes, overflows and other appurtenances;
- location of all known existing structures which might interfere with or be affected by the proposed sewers, especially any watermains and other water works;
- details of sewer bedding and anchoring, manholes and manhole connections, service connections, bridge crossings, stream crossings, support structures for existing structures in the path of construction, trench bracing, etc., and for sewage forcemains, also thrust blocks, air and vacuum release valves, connection to the terminal manhole, surge suppressor, special connections, etc.; and
- any additional descriptive specifications and information, not included in a separate specifications document, required to inform the contractor of all project requirements regarding the type and quality of construction materials and prefabricated components, quality of workmanship, testing of structures and materials to meet design standards and operating tests for the completed works and component units (e.g., pressure testing of sewers and forcemains).

### **3.1.3.2 Final Plans - Major Sewage Works**

(Sewage Treatment and Disposal Facilities, Stormwater Management Facilities, Pumping Stations)

#### **3.1.3.2.1 general plan**

A comprehensive general plan of the existing and proposed sewage works should be submitted for all projects involving new major sewage works. This plan should show:

- location of the proposed works and the area to be serviced by the works;
- all major topographic features including drainage areas, existing and proposed streets, watercourses, contour lines at suitable intervals, municipal boundaries, land surveying datum used (or assumed bench mark), etc.; and
- location and nature of all proposed sewage works and existing sewage works associated with the proposed works, including pumping stations, treatment plant, effluent discharge points

(including emergency by-passes and overflows), **together with their individual geo-reference coordinates (UTM Easting and Northing), and identification of the main point of reference whose geo-reference coordinates are entered in the Site Information section of the Application form.**

#### **3.1.3.2.2 site plans**

Individual site plans must be provided for all proposed major sewage works and modifications/upgrades of such facilities. Each site plan should show:

- the entire property where facility is to be or is located, including the property lines, and identification of the nature of the adjoining lands;
- topographic features of the property and adjoining lands, including existing and proposed streets, contour lines at suitable intervals, drainage areas, watercourses, the elevation of the highest known flood level, municipal boundaries, and the land surveying datum (or assumed bench mark) used;
- layout, size and nature of the existing, proposed and future structures on the property showing distances from property lines, and private residences and other structures on adjoining properties; and
- test borings and groundwater elevations within site limits.

#### **3.1.3.2.3 general layout and detail engineering drawings**

The following general and detail engineering layout drawings should be provided for all proposed new major sewage works and modifications/upgrades of existing major sewage works:

- Process flow diagrams (PFD) showing all process components (including type, size, pertinent features, and rated capacity of process units and major equipment, i.e., tanks, reactors, pumps, chemical feeders, blowers, etc.), direction of flow of all process, recycle and waste streams ( including by-pass and overflow lines), and the location of all points of chemical addition and treated sewage sampling and monitoring; and indicating the minimum, maximum and average flow rates of all streams entering and leaving each process component as well as a mass balance for all design parameters around each process component.
- Accurate hydraulic profiles through treatment plants, pumping stations, etc. prepared for minimum and maximum flow conditions to a vertical scale adequate to clearly show the elevations of tank tops, channel and trough inverts, weirs and other features directly affecting the hydraulic gradient ( For pumping stations, minimum, maximum and, overflow liquid levels in the wet well should be shown.).
- General layout plans for all major facilities of the works (e.g., layout of all aeration tanks together) including all associated process flow channels and piping (show direction of flow),

process and ancillary equipment, air and chemical feed lines, points of chemical addition, etc.

- Construction scale plan and profile drawings (with dimensions and elevations) of all facilities proposed to be constructed or modified, including any additional descriptive specifications and information not included in a separate specifications document.
- Process and instrumentation diagrams (P&ID) showing the inter-connection and operation control arrangements for all process and ancillary equipment and appurtenances.

### **3.1.4 Sewage Works - Specifications**

Detailed technical specifications must be provided for all sewage works projects. In the case of minor works such as minor storm or sanitary sewer extensions, these specifications can generally be noted on the final plans. For more extensive works, separate specifications documents will generally be required.

The specifications should include all construction and installation information not shown on the drawings and required to inform the contractor of all project requirements regarding:

- type and quality of construction materials and prefabricated components;
- quality of workmanship;
- type, size, rating, operating characteristics and quality of mechanical and electrical equipment and installations (e.g., process and ancillary equipment and appurtenances, valves, piping, and pipe joints; electrical apparatus, wiring, and metering and monitoring equipment, laboratory fixtures and equipment, special tools, etc.);
- type and quality of process materials (e.g., filter media) and chemicals;
- testing of structures, materials and equipment necessary to meet design standards;
- operating tests for the completed works and component units (e.g., pressure testing of sewers, forcemains and other piping; and
- **maintenance of operation of existing works within the requirements of current certificate of approval during the construction of new works (unless otherwise approved by the Ministry).**

## **3.2 WATER WORKS INFORMATION**

### 3.2.1 Water Works - Preliminary Engineering Report

If a Preliminary Engineering Report is being submitted for the proposed water works, it should present the following information, **where applicable**:

- Description of the proposal, and where applicable, a description of the associated existing water works.
- Extent, nature and anticipated population of the area to be serviced, facilities proposed to serve the area (including identification of the sources of water supply), and provisions for future expansion of the system to include additional service areas and/or population growth, or where applicable, a reference to the Environmental Study Report (ESR), if all these issues were already addressed in that document.
- Itemization and discussion of present and future domestic water consumption figures, commercial and industrial usages, and fire flows used in sizing various components of the water works system, or where applicable, a reference to the Environmental Study Report (ESR), if all these issues were already addressed in that document.
- Discussion of raw water quantity requirements and its availability from the proposed source of supply based on the source study to determine the quantity of water available. The extent of such a study will depend on the type and size of the water source. In fact, where the proposed water source is a major surface watercourse such a study may not be required at all. On the other hand, the establishment of perennial and short term yields of a groundwater well may be a considerable task.
- A hydrogeologist's report (for all groundwater wells) establishing the wells' perennial yields, maximum short-term yields (i.e. over 12 hours, 24 hours, 1 week, 90 days, etc.) and recommended pump sizing based on a hydrogeologist's rating of the long term yields of the wells. This report should also deal with possible interference with other existing wells in the area and contain all information required for an application for a Permit to Take Water (PTTW) issued by the appropriate Regional Director of the Ministry under Section 34 of the *Ontario Water Resources Act* (OWRA).

**Note: An application for approval of water works involving a new surface water intake or groundwater well, or an existing intake/well with a change in quantity or rate of withdrawal, will not be accepted for review unless a copy of an appropriate valid PTTW permitting such withdrawal is submitted as part of the supporting documentation.**

- Discussion of raw water quality available from the proposed source of supply supported by an appropriate number of physical, chemical and bacteriological analyses of raw water samples obtained from the proposed source.

**Note: In case of a groundwater source, it is usually sufficient to base the study on several samples obtained during the well pumping tests conducted to establish the yield of the well(s). In order to establish a reliable database for a surface water source, it is generally necessary to undertake a water sampling and analysis survey extending over sufficiently long period of time to account for seasonal variations in the water quality.**

**Normally, the source water analyses should include all physical, chemical and bacteriological parameters identified in Tables 1 through 4 of the current Ontario Drinking Water Standards . However, where general knowledge and/or historical data indicate that, in the proposed water source, particular substances (e.g., radionuclides) are consistently absent or below the level of concern, these substances/parameters need not be included in the required analyses, provided that such an elimination has been agreed to in writing by the Ministry. [NOTE: It is the responsibility of the proponent to provide evidence in support of requests to exclude any parameters from analysis requirement.]**

**The raw water analysis may also need to include such parameters as conductivity, water stability index, etc., which are not listed in the Ontario Drinking Water Standards, but may be essential in establishing the raw water treatability or special treatment needs.**

- Discussion of adequacy of the proposed water treatment facilities for the treatment of the raw water from the proposed water source in terms of the Ontario Drinking Water Standards and the undertaken treatability study. This discussion should include a summary of basic process design parameters of all major components of the treatment facilities, including chemical addition, equipment capacities, detention times, surface settling rates, filtration rates, backwash rates, etc., operational reliability of key process units, unit redundancy, back up reliability.
- Discussion of all waste streams generated in the water treatment process, including their volumes, composition, proposed treatment and points of discharge, in terms of effluent criteria established in consultation with the appropriate Regional Office of the Ministry. [Note: All water treatment plant's waste streams are usually required to be treated to the same effluent quality as would be required for sewage discharges to the same receiving water body.]
- Discussion of the proposed flow metering, sampling and monitoring program, including monitoring of any waste streams.
- Description of the proposed pumping facilities (well pumps, and low-lift, high-lift and booster pumping stations), including the number and capacities of duty and standby pumps, and discussion of the ability of the system to supply water during power failure events through either standby power facilities and/or elevated storage systems.
- Discussion of the system storage requirements and the ability of the proposed facilities to satisfy these requirements. Reference should be made to the Ministry "Guidelines for the Design of Water Storage Facilities (July 1985)";
- Brief discussion of the locations of all significant water works structures with respect to proximity to sources of potential water supply contamination (e.g., sewage treatment plant discharges, sewer overflows, septic systems) and susceptibility to flooding.
- Discussion of the design criteria used for proposed watermains including design flows, minimum and maximum distribution pressures, minimum depth of cover, minimum separation distance from sewers and other utilities, etc.

- Discussion of the planning for any future extensions and/or improvements to the water supply and distribution system.
- Preliminary design plan(s), all bearing the project title, name of the municipality, name of the development or facility with which the project is associated, name of the design Engineer and preparation date, and where applicable also the plan scale, north point, land surveying datum, and any municipal boundaries within the area shown, providing the following information (where pertinent):
  - general layout and sizes of existing and proposed watermains, and location of major components of other existing and proposed water work and sources of water supply, and points of potential source or system contamination (e.g., sewage treatment plant discharges, sewer overflows, septic systems);
  - general layout (line diagram) of the works (except for watermains);
  - process flow diagrams for the water treatment processes, showing all process components, the direction of flow of all raw and treated water, recycle and waste streams, the location of all chemical addition points; and the maximum flow rate of all streams entering and leaving each component of the process and a mass balance for all design parameters around each process component.

### 3.2.2 Water Works - Design Brief (Basis of Design)

A design brief, summarizing the design criteria and presenting the design calculations used in sizing individual components of the works, should be submitted along with final plans and specifications.

**Note: Where a preliminary report has not been or is not being submitted for the project, or where some parts of the information in the earlier submitted preliminary report is no longer valid or applicable, the design brief should include the information outlined above under the heading Preliminary Engineering Report as well as the applicable information outlined below.**

If a Preliminary Engineering Report has been submitted for the proposed water works, the design brief for the particular type of water works should include the information outlined below.

#### 3.2.2.1 Design Brief - Watermains

- Nature and population of the area served (current and design).
- Maximum water demand, including fire flows.
- Design data and calculations for individual watermains, including the required capacity.
- Capacity of the existing (or proposed) water supply and distribution system to meet the additional water demand without compromising the system minimum pressure requirements.

**Note: In the cases of minor watermain extensions, where the minimum sizing requirement dictates the use of 150 mm diameter pipes, such calculations are generally not required.**

However, the information is essential where (a) the designer proposes the use of pipe diameter smaller than 150 mm for watermains not required to carry fire flow, (b) the water supply capability of the existing system is marginal, (c) or the proposed watermain extension is extensive.

### 3.2.2.1 Design Brief - Major Water Works

(Water Intakes and Low-lift Pumping Stations, Groundwater Wells, Water Treatment Plants, High-lift Pumping Stations, and Water Storage Facilities)

- Basic data on the estimated water demand from the population and area to be served including:
  - design period,
  - design service population and area [hectares], and population density,
  - design per capita water consumption, and industrial and commercial water demand,
  - fire flow requirements, and
  - total design water demand (average, maximum day, and peak hour).
- Design flows used in sizing of individual components of the works (water intakes, pumps, treatment process units, storage and distribution facilities).
- Summary of the raw water quality information and the treatment requirements.
- Description (types, number and sizes) of all proposed facilities, process units and equipment, **including waste stream treatment and disposal facilities**, and identification of their process design parameters (i.e., intake velocity in the intake, mixing rates in rapid mix and flocculation tanks, surface settling rates and retention times in settling tanks, filtration and backwash rates in filters, chemical feed rates, chlorine contact concentration/time (CT) factor in chlorine contact tanks, etc.).
- Detailed process and hydraulic design (or sizing) calculations for all facilities, treatment units and equipment.
- Proposed flow metering system, including raw water supply, backwash water flow rate, individual units filtration rates, treated water production quantity.
- Proposed treated water and waste stream effluent quality monitoring program, including provision of continuous automatic water quality analysers, identification of sampling points, frequency of sampling and calibration procedures.
- Proposed system automation and back up procedures.
- Where the proposed works incorporate processes that are innovative or in an experimental stage, or include equipment and materials where no reliable data from full scale operation is available, the following information must also be provided:

- all available data pertaining to the proposed process, equipment or material;
- results of any testing programs which have been undertaken by independent testing agencies, research foundations, universities, etc.;
- identification of any known full-scale applications of the proposed process/equipment/material, including a description of the type of application and the name and address of the person who could be contacted for technical information on the application;
- discussion of the impact of a potential failure of the proposed process/equipment/material; and identification of the measures proposed to be undertaken to preclude any health hazard or approval non-compliance as a result of such a failure; proposed contingencies to modify or replace the proposed process/equipment/material in case of their failure; and liabilities associated with the proposal;
- description of the monitoring, testing and reporting program proposed to be undertaken during the experimental period; and
- the proposed duration of the experiment.

### **3.2.3 Water Works - Final Plans**

All final plans submitted in support of applications for approval of sewage works must bear the project title, name of the municipality, name of the development or facility with which the project is associated, and name of the design Engineer, including a signed and dated imprint of his/her registration seal, and where applicable, also the plan scale, north point, land surveying datum, and any municipal boundaries within the area shown.

Detail engineering plans should include plan views, elevations, sections and supplementary views which, together with the specifications and general layout plans, would provide the working information for finalizing of the construction contract for the works. These drawings should show dimensions and relative elevations of structures, the location and outline of equipment, location and size of piping, liquid/water levels and ground elevations.

#### **3.2.3.1 Final Plans - Watermains**

##### **3.2.3.1.1 general plan**

A comprehensive plan of the existing and proposed water works should be submitted for projects involving new water distribution systems or substantial additions to existing systems. This plan should show:

- all major topographic features including existing and proposed streets, contour lines at suitable intervals, drainage areas, watercourses, municipal boundaries, land surveying datum used (or assumed bench mark), etc.;
- location and size of existing and proposed watermains; and
- location and nature of all existing and proposed water works associated with the proposed watermains, including any existing sewer overflows.



### 3.2.3.1.2 detail engineering drawings

Detailed plan and profile drawings should be provided for the proposed and adjacent existing watermains. The profiles should have a horizontal scale of not more than 1:1000 and a vertical scale of not more than 1:100. The plan view should be drawn to a corresponding horizontal scale. Detail engineering drawings should show:

- location of streets and watermains;
- existing and proposed ground surface; size, material and class of pipe, location of hydrants, valves, blow-offs, meter chambers and other appurtenances;
- location of all known existing structures which might interfere with or affected the proposed watermains, especially any sewers and other sewage works;
- details of watermain bedding and anchoring, hydrant connections, service connections, bridge crossings, stream crossings, support structures for existing structures in the path of construction, trench bracing, thrust blocks, air release valve and blow-off valve installations, etc.; and
- any additional descriptive specifications and information, not included in a separate specifications document, required to inform the contractor of all project requirements regarding the type and quality of construction materials and prefabricated components, quality of workmanship, testing of structures and materials to meet design standards and operating tests for the completed works and component units (e.g., disinfection and pressure testing of watermains).

### 3.2.3.2 Final Plans - Major Water Works

(Water Intakes and Low-lift Pumping Stations, Groundwater Wells, Water Treatment Plants, High-lift Pumping Stations, and Water Storage Facilities)

#### 3.2.3.2.1 general plan

A comprehensive general plan of the existing and proposed water works should be submitted for all projects involving new major water works. This plan should show:

- location of the proposed works and the area to be serviced by the works;
- all major topographic features including drainage areas, existing and proposed streets, watercourses, contour lines at suitable intervals, municipal boundaries, land surveying datum used (or assumed bench mark), etc.; and
- location and nature of all proposed water works and existing water works associated with the proposed works, including wells, intakes, treatment plant, reservoirs and pumping stations, **together with their individual geo-reference coordinates (UTM Easting and Northing),**

**and identification of the main point of reference whose geo-reference coordinates are entered in the Site Information section of the Application form.**

### **3.2.3.2.2 site plans**

Individual site plans must be provided for all proposed major water works and modifications/upgrades of such facilities. Each site plan should show:

- the entire property where facility is to be or is located, including the property lines, and identification of the nature of the adjoining lands;
- topographic features of the property and adjoining lands, including existing and proposed streets, contour lines at suitable intervals, drainage areas, watercourses, the elevation of the highest known flood level, municipal boundaries, and the land surveying datum (or assumed bench mark) used;
- layout, size and nature of the existing, proposed and future structures on the property showing distances from property lines, and private residences and other structures on adjoining properties;
- location and identification of all sources of potential pollution which could affect water quality in the source of water supply or contaminate the treated water being distributed; and
- test borings and groundwater elevations within site limits.

### **3.2.3.2.3 general layout and detail engineering drawings**

The following general layout and detail engineering drawings should be provided for all new major water works and modifications/upgrades of existing major water works:

- For each groundwater well, a copy of the well drilling log and schematic diagram showing details of well construction including elevations of geological formations, water levels, proposed pump installation level, well screen data including well screen entrance velocities, etc.
- Process flow diagrams (PFD) showing all process components (including type, size, pertinent features, and rated capacity of process units and major equipment, i.e., tanks, reactors, pumps, chemical feeders, etc.), direction of flow of all process, recycle, backwash and waste streams, and the location of all points of chemical addition and treated water and waste stream effluent sampling and monitoring; and indicating the minimum and maximum flow rates of all streams entering and leaving each process component as well as a mass balance for all design parameters around each process component.
- Accurate hydraulic profiles through water intake facilities, treatment plants, pumping stations, etc. prepared for minimum and maximum flow conditions to a vertical scale adequate to clearly show the elevations of tank tops, channel and trough inverts, weirs and other features directly affecting the hydraulic gradient ( For water intake facilities, normal, maximum and

minimum water levels of the water source and their effects on low-lift pumping station should be shown).

- General layout plans for all major facilities of the works (e.g., layout of all filters together) including all associated process flow channels and piping (show direction of flow), process and ancillary equipment, air and chemical feed lines, points of chemical addition, etc.
- Construction scale plan and profile drawings (with dimensions and elevations) of all facilities proposed to be constructed or modified, including any additional descriptive specifications and information not included in a separate specifications document.
- Process and instrumentation diagrams (P&ID) showing the inter-connection and operation control arrangements for all process and ancillary equipment and appurtenances.

### **3.2.4 Water Works - Specifications**

Detailed technical specifications must be provided for all water works projects. In the case of minor works such as minor watermain extensions, these specifications can generally be noted on the final plans. For more extensive works, separate specifications documents will generally be required.

The specifications should include all construction and installation information not shown on the drawings and required to inform the contractor of all project requirements regarding:

- Type and quality of construction materials and prefabricated components;
- quality of workmanship;
- type, size, rating, operating characteristics and quality of mechanical and electrical equipment and installations (e.g., process and ancillary equipment and appurtenances, valves, piping, and pipe joints; electrical apparatus, wiring, and metering and monitoring equipment, laboratory fixtures and equipment, special tools, etc.);
- type and quality of process materials (e.g., filter media) and chemicals;
- testing of structures, materials and equipment necessary to meet design standards;
- operating tests for the completed works and component units (e.g., pressure testing of watermains and other piping; and
- **maintenance of operation of existing works within the requirements of current certificate of approval during the construction of new works (unless otherwise approved by the Ministry).**

#### 4. DETAILED DESCRIPTION OF PROPOSED WORKS

It is the Ministry's current practice to describe the approved works in the approval document in detail sufficient to locate and identify the works in the field without the use of engineering drawings, and availability of such a detailed description of the proposed works would facilitate and expedite preparation of the approval document by the Approvals staff. Therefore, it is recommended that, in addition to the project description summary required to be provided in the application form, the applicant attach a detailed technical description of the proposal clearly identifying all components of the proposed works.

With the exception of watermains and sewers, such a detailed description would specify the locations, names, types, number, sizes and capacities of all vital structures and pieces of equipment in the proposed works, and identify the role of the individual components in the process flow. The individual components of the works should be described in separate paragraphs in order of their appearance in the process flow.

Watermains, storm sewers and sanitary sewers should be described in a tabular form indicating the street on which the works are to be located and their location on that street with respect to the nearest intersecting streets. Separate tables should be prepared for watermains, storm sewers and sanitary sewers.

The following are some examples of description of various types of water and sewage works.

##### **Watermains, and storm and sanitary sewers**

<u>Street</u>	<u>From</u>	<u>To</u>
<b>Watermains</b>		
Easement approx. 50 m north of Maple Street	approx. 120 m east of John Street	Elm Street
<b>Sanitary sewers</b>		
Tap Court	Cul-de-sac	Bing Avenue
<b>Storm sewers</b>		
Moore Crescent	approx. 25 m south of Roseland Drive (east intersection)	Roseland Drive (west intersection)

### **Sewage pumping station**

- a 3.0 m diameter precast concrete wet well sanitary sewage pumping station, located on the south side of Maple Street approximately 55 m west of Oak Street, equipped with two (2) submersible pumps, each rated at 10.3 L/s at a TDH of 10.4 m, connected to the below described 100 mm diameter sanitary forcemain on Maple Street;

### **Sanitary forcemain**

- a 100 mm diameter sanitary forcemain from Maple Street P.S. to the sanitary sewer on Oak Street, as follows:

<u>Street</u>	<u>From</u>	<u>To</u>
Maple Street	approx. 55 m west of Oak Street ( Maple Street P.S.)	Oak Street
Oak Street	Maple Street	approx. 120 m north of Maple Street (sanitary sewer discharge)

### **Stormwater management facilities**

- a 2.2 hectare rooftop providing a detention volume of approximately 896 m<sup>3</sup>, with 35 rooftop drains restricting the peak release rate during the 1:100 year design storm to 20 L/s each, discharging into the site storm sewer system draining into the pond described below;
- a 1.3 hectare parking lot providing a total detention volume of 759 m<sup>3</sup> at a maximum ponding depth of 0.22 m, with five (5) catchbasins equipped with orifice control devices restricting the peak discharge rate during the 1:100 year design storm to 215 L/s each, discharging into the site storm sewer system draining into the pond described below;
- a 0.15 hectare extended detention pond receiving stormwater runoff from a total drainage area of 9.8 ha (including the above-described rooftop and parking lot), having a total storage volume of 1650 m<sup>3</sup> at a maximum pond elevation of 93.4 m, a 450 mm diameter inflow pipe and headwall, and an outlet well with an overflow inlet weir restricting the maximum discharge rate during the 1:100 year design storm to 240 L/s, discharging into a 300 mm diameter 120 m long outlet sewer to the municipal drain.

### **Groundwater supply system**

- a 324 mm diameter 61.26 m deep drilled groundwater well (Well 1-93), located in Lot 28, Concession 1, approximately 40 m west of Highway 10 and 75 m north of the Credit River crossing, equipped with a submersible deep well pump, rated at 1022.0 L/min at a TDH of

104.0 m, with a 150 mm diameter discharge line connected to the well pump header in the pumphouse described below, including a vented watertight galvanized steel enclosure over the well head;

- a well pumphouse, located approximately 30 m north of well 1-93, housing treatment and control facilities, including:
  - 150 mm diameter well 1-93 pump header and appurtenances, connected to the feeder watermain described below, including a magnetic flow meter with a by-pass,
  - chlorination system utilizing sodium hypochlorite, consisting of a 200 litre capacity sodium hypochlorite solution storage tank and two (2) chemical metering pumps (one duty, one stand-by) with a feed line discharging into the well pump header at the exit from the pumphouse,
  - iron and manganese sequestering system utilizing a phosphate based sequestering agent, consisting of a 200 litre capacity sequestering agent solution storage tank and one (1) chemical metering pump with a feed line system discharging into the well pump header at the exit from the pumphouse and into the well itself at the well pump suction (feed line to the well installed inside a 100 mm diameter PVC pipe laid underground along with a similar PVC pipe containing electrical service connection for the well pump),
  - a stand-by well-casing air displacement system utilizing carbon dioxide, consisting of two (2) (one duty, one stand-by) 34 kg carbon dioxide cylinders with gauges and solenoid valves located in the pumphouse, a 10 mm diameter carbon dioxide line from the CO<sub>2</sub> cylinders to the inside of the well casing (installed inside the above-described 100 mm diameter PVC carrying the sequestering agent feed line from the pumphouse to the well), and two (2) vents on the well casing opening inside the enclosure over the well, one equipped with a well-casing pressure relief valve opening when the pressure inside the casing is greater than 14 kPa (2 psi) above the atmospheric pressure, and the other equipped with a well-casing vacuum relief/air inlet valve opening when the pressure inside the casing is lower than 2 kPa (¼ psi) below the atmospheric pressure, and
  - a 350 kW Diesel engine stand-by power generator set located in a separate room of the pumphouse; and
- a 300 mm diameter feeder watermain with fire hydrants and appurtenances and with no service connections on its entire length of approximately 915 m, providing a chlorine contact time before the first consumer of approximately 64.9 minutes at the approved maximum flow of 1009.0 L/min, as follows:

<u>Street</u>	<u>From</u>	<u>To</u>
Pumphouse Site	approx. 40 m west of Highway 10 (Pumphouse)	Highway 10

Highway 10

approx. 115 m north of  
Credit River crossing

McCannell Avenue

### **Elevated water storage tank**

- an elevated water storage tank to be constructed at the northwest corner of the intersection of Herman Street and Woodlands Crescent, having an operating capacity of 4500 m<sup>3</sup> between the minimum and maximum operating water elevations of 177.31 m and 189.50 m, designed for the peak hour water demand equalization, and fire and emergency storage;

### **Sewage treatment plant**

#### Plant Building

- a building housing the below-described sewage treatment facilities and the associated office, staff and laboratory facilities, including two (2) independent negative pressure ventilation systems for the high and low odour process areas, one equipped with a bio-filter and the other with an activated carbon filter installed on the respective system's discharge to the atmosphere for the purpose of odour control;

#### Influent Works

- a plant influent channel system consisting of a 600 mm wide 850 mm deep plant inlet channel splitting into two (2) screen inlet channels, each 300 mm wide and 1000 mm deep;
- two (2) 350 mm wide and 850 mm deep screen channels, each equipped with a mechanically raked bar screen with 15 mm openings rated at 4450 m<sup>3</sup>/d;
- two (2) circular vortex grit removal units installed downstream of the bar screens, each having a diameter of 2.0 m and a side water depth of 3.1 m, each rated at a peak flow of 4450 m<sup>3</sup>/d, and each with an air lift grit removal system, a 300 mm diameter inlet and a 600 mm diameter outlet port, discharging into individual outlet channels leading to the secondary treatment facilities' inlet channel;
- one (1) screw conveyor grit classifier serving both vortex grit removal units, with drain connections to both screen outlet channels;
- two (2) flow metering Parshall flumes in the two vortex grit removal units' outlet channels, including ultrasonic level indicators and transmitters;

#### Secondary Treatment Facilities

- two (2) parallel continuous inflow sequential batch reactors (SBR), operated on a time cycle basis adjustable in the time range of 4 to 2.4 hours and set up in such a way that at no time effluent is discharged from the two reactors simultaneously, each reactor consisting of a tank

26.0 m long x 7.3 m wide x 4.0 m maximum side water depth, operated in the depth range of 2.9 m to 4.0 m, and each equipped with the following facilities:

- a system of inflow distribution piping connected to the SBR influent splitter box designed to distribute the influent sewage evenly throughout the bottom of the reactor,
  - a system of fine bubble diffusers with associated distribution piping designed provide aeration for biological oxidation and mixing, connected to the compressed air supply system described below,
  - one (1) submersible centrifugal waste activated sludge pump rated at 150 L/min at a TDH of 6.1 m, with a discharge line to the waste activated sludge holding tank described below, and
  - one (1) motorized effluent decanter rated at 57.9 L/s, equipped with a pivoting float scum guard, and discharging into a channel feeding the UV disinfection channel described below;
- three (3)(two duty, one stand-by) positive displacement air blowers serving as the compressed air supply for the SBR aeration system, each rated at 9.3 m<sup>3</sup>/min standard air (329 SCFM) at a discharge pressure of 44.8 kPa, and each equipped with an inlet air filter, inlet and outlet silencers, flexible connectors, pressure relief valve, discharge check valve and isolation valves;

#### Phosphorus Removal Chemical Application Facilities

- one (1)18,000 L capacity alum solution storage tank, together with two (2)(one duty, one stand-by) diaphragm type chemical metering pumps rated at 30 to 300 L/hr, with an alum solution feed line to the SBR influent splitter box;

#### Effluent Disinfection Facilities

- a 9.5 m long x 610 mm wide x 1220 mm deep UV disinfection channel, equipped with a 5810 mm long fixed serpentine weir on the outlet to the plant effluent outfall sewer, designed to maintain the liquid level in the channel at a depth of 624 mm, and a low pressure mercury vapour ultraviolet irradiation lamp system having 65% of the radiation output at the wave length of 253.7 nm, providing a UV irradiation density of 3.35 watts per litre at the design instantaneous peak effluent flow rate of 61.0 L/s, consisting of 128 UV lamps in sixteen (16) independently removable lamp modules arranged in two (2) banks in series;

#### Plant Effluent Outfall Sewer

- a 500 mm diameter plant effluent outfall sewer extending from the Plant Building into the St. Lawrence River approximately 200 m off shore, equipped with three (3) 100 mm diameter diffuser ports installed on the end section of the outfall sewer;



## Sludge Digestion and Storage Facilities

- one (1) 45 m<sup>3</sup> capacity waste activated sludge holding tank, equipped with one (1) progressive cavity type thickener feed pump, capable of pumping sludge at a rate of 100 to 500 L/min at a discharge head of 3.0 m and a suction lift of 3.5 m;
- one (1) 1 m wide gravity belt thickener capable of thickening waste activated sludge at a sludge feed rate of 200 to 500 L/min, including a liquid polymer feed system;
- one (1) 10 m<sup>3</sup> capacity thickened sludge holding tank,
- one (1) two-stage autothermal thermophilic aerobic sludge digestion (ATAD) system located outside of the Plant Building, consisting of:
  - two (2) insulated 2.9 m diameter and 3.0 m high batch feed and discharge sludge digestion reactors, each reactor equipped with one (1) adjustable nozzle induced suction jet type air injector installed on the digester feed/recirculation pipe, one (1) propeller type foam cutter, all associated sludge feed and removal piping and appurtenances, and a reactor venting system, including a foam trap, discharging to the air intake pipe of the SBR aeration blowers described above,
  - four (4) (two duty, two stand-by) screw type centrifugal sludge pumps, each rated at 20.0 L/s at a TDH of 7.0 m, together with an integrated system of piping and appurtenances for transfer of sludge from the thickened sludge holding tank to the digestion reactors, between the reactors and from the reactors to the digested sludge storage tanks, and
  - a stand-by heat supplementing system serving the ATAD system, consisting of a tube heat exchanger installed on the ATAD system's sludge recirculation piping, supplied with hot water at 93°C from four (4) hot water boilers serving also the plant's heating system;
- one (1) two-chamber 712 m<sup>3</sup> capacity digested sludge storage tank, equipped with a progressive cavity type sludge recirculation and tanker truck transfer pump, rated at 1000 L/min at a discharge head of 7.0 m and a suction lift of 2.5 m, together with the associated sludge suction, recirculation and transfer piping; and

## Emergency Power Supply System

- a Diesel engine stand-by power generator rated at 150 kW, together with two (2) 200 L capacity fuel tanks .

## **Sewage lagoon and effluent spray irrigation**

- a sewage stabilization and storage lagoon system consisting of two (2) cells operated in series, as follows:

- a clay lined settling cell (Cell "A"), receiving sewage via an existing forcemain in Sideroad 20, having a total area of 1.6 ha, a total depth of 3.1 m (including a 0.3 m sludge storage bottom zone and a 0.66 m freeboard), and an effective storage capacity of 21,600 m<sup>3</sup>, including a forcemain inlet structure with a 200 mm diameter valved connection (valve normally open) to the forcemain in Sideroad 20, a 250 mm diameter valved cell outlet pipe to the storage cell (Cell "B"), and a 300 mm diameter cell overflow pipe to Cell "B" with a rip-rap berm protection at both (Cell "A" and Cell "B") ends of the pipe;
- a clay lined storage cell (Cell "B"), receiving settled sewage from the above-described Cell "A", having a total area of 6.2 ha, a total depth of 3.1 m (including a 0.3 m sludge storage bottom zone and a 0.66 m freeboard), and an effective storage capacity of 109,925 m<sup>3</sup>, including a forcemain inlet structure with a 200 mm diameter valved connection (valve normally closed) to the forcemain in Sideroad 20, and a 1.5 m deep reinforced concrete lagoon effluent intake sump in the bottom of the cell, having walls extending 0.3 m above the bottom of the cell with stop log guides for extension of the walls up to 0.6 m above the bottom of the cell;
- a lagoon effluent pumping station consisting of a 3.0 x 3.6 m wood frame building located adjacent to the lagoon, housing one (1) 75 hp electric motor driven centrifugal sewage pump rated at 132 L/s at a TDH of 38.0 m with a 250 mm diameter suction pipe to the above-described lagoon effluent intake sump in Cell "B" with a self-cleaning rotating intake strainer, and a 300 mm diameter discharge pipe to the below-described South Field effluent distribution system, equipped with a magnetic flowmeter;
- a 23.0 ha effluent spray irrigation field (South Field), located immediately to the north and east of the above described sewage lagoon, consisting of four (4) spray irrigation sites equipped with independently operated systems of sprinkler heads serviced by dedicated systems of distribution mains and laterals with valved connections to the above-described pumping station's discharge pipe, with the individual spray irrigation sites sized as follows:
 

Site A1: 65,293 m <sup>2</sup>	Site C2: 36,506 m <sup>2</sup>
Site B2: 26,855 m <sup>2</sup>	Site C3: 11,382 m <sup>2</sup>
- an 18.6 ha effluent spray irrigation field (North Field), located northwest of the above-described South Field, consisting of three (3) spray irrigation sites equipped with independently operated systems of sprinkler heads serviced by dedicated systems of distribution mains and laterals with valved connections to an approximately 630 m long 250 mm diameter transmission forcemain from the above-described pumping station's discharge pipe at the north end of the South Field, with the individual spray irrigation sites sized as follows:
 

Site B1: 37,643 m <sup>2</sup>	Site C1: 65,564 m <sup>2</sup>	Site D1: 16,312 m <sup>2</sup>
--------------------------------	--------------------------------	--------------------------------

### **Septic tank and sub-surface disposal system**

- a 500 L capacity prefabricated concrete box grease trap overflowing to the septic tank described below;
- a 20,000 L capacity prefabricated concrete two-cell septic tank, equipped with a 3mm slot 250 mm diameter tube screen on inlet to the tank overflow pipe discharging to the pump chamber described below;
- a 5,000 L capacity prefabricated concrete pump chamber equipped with a 1.0 hp submersible sewage pump, together with pump control and alarm level switches, and an above-ground control panel, feeding the leaching bed distribution system; and
- a 750 m<sup>2</sup> leaching bed, together with a pressure tight distribution box and 300 m of 32 mm diameter perforated distribution pipe arranged in ten (10) 30 m long parallel runs independently connected to the distribution box, spaced at centre line distance of 2.0 m and placed in 0.8 m deep x 0.6 m wide gravel trenches .

# APPENDICES

# APPENDIX A

## APPROVALS LEGISLATION OVERVIEW

This overview provides a summary of the key elements of the *Ontario Water Resources Act* (OWRA) and other legislation as they relate to the approvals process under sections 52 and 53 of the OWRA. The summary is not comprehensive and for full review of the applicable requirements the proponent should refer to the actual legislation. It is the proponent's legal obligation to be aware of, and to understand all requirements of the *Ontario Water Resources Act* (OWRA) and other applicable legislation.

### 1. ONTARIO WATER RESOURCES ACT (OWRA)

The *Ontario Water Resources Act* (OWRA) provides for the protection and conservation of the water environment, and the control of the quality of drinking water supplied to the public.

#### 1.1 Definitions

Section 1 of the OWRA defines, among others, the following terms used in the Act:

*"Municipality" means the corporation of a county, metropolitan area, regional area, district area, city, town, village, township or improvement district and includes a local board thereof and a board, commission or other local authority exercising any power with respect to municipal affairs or purposes, including school purposes, in an unorganized township or unsurveyed territory;*

*"owner" means a municipality or person having authority to construct, maintain, operate, repair, improve or extend water works or sewage works;*

*"person" includes a municipality;*

*"sewage" includes drainage, storm water, commercial wastes and industrial wastes and such other matter or substance as is specified by regulations made under clause 44(1)(i);*

*"sewage works" means any works for the collection, transmission, treatment and disposal of sewage or any part of any such works, but does not include plumbing or other works to which the regulations made under clause 44(2)(a) apply;*

*"waters" means a well, lake, river, pond, spring, stream, reservoir, artificial watercourse, ground water or other water or watercourse;*

*"water works" means any works for the collection, production, treatment, storage, supply and distribution of water, or any part of any such works, but does not include plumbing or other works to which regulations made under clause 44(2)(a) apply.*

## 1.2 Water Works

The requirements regarding establishment and operation of water works are contained in section 52 of the Act.

Subsection 52(1) stipulates the requirement to obtaining an approval for the establishment of new water works or any modifications to existing water works:

*No person shall establish, alter, extend or replace new or existing water works except under and in accordance with an approval granted by a Director.*

Subsection 52(7) also prohibits operation of unapproved water works:

*No person shall use or operate water works for which an approval is required under subsection (1) unless the required approval has been granted and complied with.*

Subsection 52(8) stipulates that the water works approval requirement under section 52 **does not apply**:

- (a) *to a water works to be used only for supplying water for agricultural, commercial or industrial purposes, that is not required under any act or regulation to be fit for human consumption;*
- (b) *to a water works not capable of supplying water at a rate greater than 50,000 litres per day;*
- (c) *to a privately owned water works to be used to supply water only for five or fewer private residences; and*
- (d) *to such water works as may be exempted therefrom by regulations made under this Act.*

**Note:** See below for information on additional exemptions provided by Regulation 525/98, Approval Exemption, and Regulation .../00, Drinking Water Protection.

The Director for the purpose of this section is an employee of the Environmental Assessment and Approvals Branch of the Ministry of the Environment so designated under section 5 of the Act.

### 1.2.1 Permit to Take Water

The requirements regarding taking of water from the environment for any purpose are contained in section 34 of the Act.

This section stipulates that "*no person shall take more than a total of 50,000 litres of water in a day*" from any ground and/or surface waters "*without a permit issued by the Director.*"

The Director for the purpose of this section is an employee of any Regional Office of the Ministry of the Environment so designated under section 5 of the Act.

**Note:** If a proposal for water works subject to the requirements of section 52 of the Act involves a new water intake/well or an existing intake/well with a change in quantity or rate of withdrawal of water, the proponent must obtain a Permit to Take Water from the appropriate Regional Office of the Ministry before submitting the application for approval of water works under Section 52 OWRA.

### 1.3 Sewage Works

The requirements regarding establishment and operation of sewage works are contained in section 53 of the Act.

Subsection 53(1) stipulates the requirement to obtain an approval for the establishment of new sewage works or any modifications to existing sewage works:

*No person shall establish, alter, extend or replace new or existing sewage works except under and in accordance with an approval granted by a Director.*

Subsection 53(5) also prohibits operation of unapproved sewage works:

*No person shall use or operate sewage works for which an approval is required under subsection (1) unless the required approval has been granted and complied with.*

Subsection 53(6), as amended by the *Services Improvement Act*, 1997, stipulates that the sewage works approval requirement under section 53 **does not apply**:

- (a) *to a sewage works from which sewage is not to drain or be discharged directly or indirectly into a ditch, drain or storm sewer or a well, lake, river, pond, spring, stream, reservoir or other water or watercourse;*
- (b) *to a privately-owned sewage works designed for the partial treatment of sewage that is to drain or be discharged into a sanitary sewer;*
- (c) *to a sewage system that is subject to the Building Code Act, 1992;*
- (d) *to a sewage works the main purpose of which is to drain agricultural lands;*
- (e) *to a drainage works under the Drainage Act, the Cemeteries Act, the Public Transportation and Highway Improvement Act or the Railways Act;*
- (f) *to such sewage works as may be exempted therefrom by regulations made under this Act,*

but **does apply**:

*to a sewage works for the distribution of sewage on the surface of the ground for the purpose of disposing of the sewage.*

Subsection 53(6.1), added to the OWRA by the *Services Improvement Act*, 1997, stipulates that the sewage works approval requirement under section 53 also applies to the sewage works described in clause 53(6)(a), i.e., “sewage works from which sewage is not to drain or be discharged directly or indirectly into a ditch, drain or storm sewer or a well, lake, river, pond, spring, stream, reservoir or other water or watercourse”, if:

- (a) *the sewage works have a design capacity in excess of 10,000 litres per day;*
- (b) *more than one sewage works is located on a lot or parcel of land and they have, in total, a design capacity in excess of 10,000 litres per day; or*
- (c) *the sewage works are not located wholly within the boundaries of the lot or parcel of land on which is located the residence or other building or facility served by the works.*

The addition of the new subsection 53(6.1) introduced to OWRA by the *Services Improvement Act*, 1997, has brought under the requirements of this section all communal and large individual sewage collection and treatment systems with **subsurface effluent disposal** (e.g., large septic tank and leaching bed systems), previously approved under Part VIII of the *Environmental Protection Act* by the local Health Units, Conservation Authorities and the Ministry’s District Offices.

Clause 53(6)(c) above, which through the *Services Improvement Act*, 1997 exempts from the approval requirement sewage systems subject to the *Building Code Act*, has replaced the previous exemption applying to all private sewage works serving five or fewer residences. With this change, and the addition of the new subsection 53(6.1), all sewage works other than the small (10,000 L/d or less) individual or multiple sewage systems located wholly within the boundaries of the lot or parcel of land on which are located the residence(s), building(s) or facility/ies which they serve, require a section 53 approval.

To clarify it further, (a) if a sewage system is larger than 10,000 L/d, it is an OWRA sewage works regardless of location; (b) if a single property contains several small systems (less than 10,000 L/d each) but the combined capacity of the systems exceeds 10,000 L/d, all those systems are OWRA sewage works regardless of their individual sizes; and (c) if the system is not contained entirely within the property of the building (or buildings) it serves, it is an OWRA sewage works regardless of the size of the system.

**Note: A sewage works whose purpose is the site stormwater management is excluded from the definition of plumbing under the *Building Code Act* (q.v.), and is therefore subject to the approval requirements of section 53 of the OWRA regardless of the size, location and ownership of the works.**

### **1.3.1 Hearing Requirements for Sewage Works**



Sections 54 and 55 of the OWRA provide for mandatory and discretionary public hearings before granting approval for sewage works. Pursuant to section 54, where the proposed works would cross any municipal boundaries, a public hearing is mandatory. Where the works would not cross any municipal boundaries but are expected to have significant public interest, pursuant to section 55, the Director may require a public hearing to be held prior to granting approval.

However, it is important to note that the establishment, alteration or extension of sewage works subject to the requirements of the *Environmental Assessment Act* (EAA) is exempt from the provisions of sections 54 and 55 of the OWRA requiring or permitting a hearing. This exemption is provided by Ontario Regulation 207/87.

A sewage works project is subject to the requirements of the EAA if the project is undertaken by a provincial or municipal government or any of their agencies, if it is undertaken by a private entity on behalf of such a government or agency with the resulting works becoming the property of the government or its agency upon its completion, or if the project is specifically designated by the EAA or a regulation to be subject to the EAA requirements.

In effect, a sewage works project would only be subject to the hearing requirements under sections 54 and 55 of the OWRA if it is undertaken by a private entity and the works is to remain privately owned upon its completion and commissioning. This includes situations where the ownership of the works is intended to be transferred to a provincial or municipal government or any of their agencies at a later date but will remain with the private entity at the time of the commissioning of the works.

#### **1.4 Refusal to Approve and Conditional Approval of Water and Sewage Works**

Pursuant to sections 52(4) and 53(4), if it deemed to be in the public interest to do so, the Director may:

- (a) *refuse to grant the approval;*
- (b) *grant the approval on such terms and conditions as the Director considers necessary;*
- (c) *impose new terms and conditions to the approval;*
- (d) *alter the terms and conditions of the approval;*
- (e) *revoke or suspend the approval.*

However, should the Director decide to do any of the above, Section 100 of the OWRA requires that the Director provide written notice of his/her decision with reasons. This notice is appealable to the Environmental Appeal Board provided that the appeal is filed within 15 days of receipt of the notice.

**Note: The appeal does not stay the Director's decision, i.e., pending the outcome of the appeal the decision remains effective and all its terms and conditions are legally enforceable, unless an exemption is granted by the Environmental Appeal Board.**

## **1.5 Regulation 525/98, Approval Exemption**

This Regulation, made under the *Ontario Water Resources Act*, exempts from the approval requirements under sections 52 and 53 of the Act certain water and sewage works of negligible potential for negative environmental impact. These exempted works include the following:

- establishment of and changes to watermain and sewer service connections,
- establishment of and changes to watermain and sewer appurtenances, e.g., valves, manholes, catch basins,
- relining of watermains and sewers,
- replacement of watermains and sewers with new watermains and sewers of similar size and capacity, and
- stormwater management facilities designed to serve a single lot or parcel of land (excluding industrial land) and discharging into a storm sewer which is not a combined sewer.

The Regulation specifically excludes from the exemption the establishment, alteration, extension, and replacement of, and changes to combined sewers and works associated with combined sewers.

## **1.6 Regulation .../00, Drinking Water Protection**

This Regulation, made under the *Ontario Water Resources Act*, imposes health related water quality standards (Maximum Acceptable Concentrations - MAC, and Interim MAC), and requirements for minimum treatment to be provided by water supplies which serve the public, and monitoring of, and reporting on performance of the water supplies.

## **2. ENVIRONMENTAL PROTECTION ACT (EPA)**

The *Environmental Protection Act* (EPA) provides for the protection and conservation of the natural environment other than the water environment. Together, the OWRA and the EPA provide the principal basis for the authority of the Ministry. Parts of the EPA which deal with the management of air quality and waste disposal may apply to the sewage works or water works for which approval is required under OWRA.

### **2.1 Emission of Contaminants to the Air**

Part II (sections 6 through 20) of the EPA deals with the restrictions on discharge of contaminants to the natural environment, and approval requirements for facilities that may discharge contaminants to the natural environment.

Section 9 of the EPA stipulates that:

*No person shall, except under and in accordance with a certificate of approval issued by the Director,*

- (a) construct, alter, extend or replace any plant, structure, equipment, apparatus, mechanism or thing that may discharge or from which may be discharged a contaminant into any part of the natural environment other than water; or*
- (b) alter a process or rate of production with the result that a contaminant may be discharged into any part of the natural environment other than water or the rate or manner of discharge of a contaminant into any part of the natural environment other than water may be altered.*

For all sources of emission of contaminants to the air **within water or sewage works** (e.g., odours from waste stabilization lagoons, grit chambers or aeration tanks; exhaust emissions from incinerators, boilers or digester gas burners; exhaust emissions and noise of Diesel generators; noise of air blowers or compressors, etc.), the requirements of section 9 of the EPA must be satisfied.

For non-point sources of odour emission, such as lagoons or open tanks, and for sources of noise, such as air blowers or compressors, the issues of air pollution are usually dealt with in the process of review for the OWRA approval, and no separate application for approval (air) is required.

On the other hand, for emissions of any gaseous or particulate matter, including internal combustion engine exhaust, from identifiable points, such as boiler flumes, Diesel generator exhaust pipes, exhaust pipes from negative pressure covered tank odour control systems, etc., and for establishment of, or modifications to a facility capable of such an emission, a separate section 9, EPA approval must be obtained from the Director (i.e., an employee of the Environmental Assessment and Approvals Branch of the Ministry of the Environment so designated under section 5 of the Act).

Ontario Regulation 346, issued under the EPA, specifies the maximum allowable concentration of air contaminants at the point of impingement. Compliance is achieved by maintaining the point of impingement concentrations of the contaminants discharged from the source of emission below the maximum concentrations stipulated in Schedule 1 of the regulation. Typical points of impingement are the property line and all critical receptors, such as building air intakes or windows.

## **2.2 Waste Management**

Part V (sections 25 through 55) of the EPA provides legislative control over waste management and disposal.

Section 25 of the EPA sets out the following definitions:

- (d) *"waste" includes ashes, garbage, refuse, domestic waste, industrial waste, or municipal refuse and such other wastes as are designated in the regulations;*
- (e) *"waste disposal site" means any land or land covered by water upon, into, in or through which, or building or structure in which, waste is deposited or processed and any machinery or equipment or operation required for the treatment or disposal of waste;*
- (f) *"waste management system" means facilities, equipment and operations for the complete management of waste, including the collection, handling, transportation, storage, processing and disposal thereof, and may include one or more waste disposal sites.*

Section 26 of the EPA further states that:

*"This Part does not apply to the storage or disposal by any person of his domestic wastes on his own property unless the Director is of the opinion, based on reasonable and probable grounds, that such storage or disposal is or is likely to create a nuisance, or to any sewage or other works to which the Ontario Water Resources Act or the regulations thereunder apply."*

Therefore, all works within the boundaries of the sewage treatment plant including any sludge treatment and disposal on the site of the sewage works, are subject to the requirements of section 53 OWRA. Any residual waste materials sent off-site become wastes which are subject to the requirements of Part V of the EPA.

Section 27 of the EPA requires the proponent/owner of a waste disposal site (e.g., landfill, transfer station, processing site or incinerator) or a waste management system (i.e. facilities and equipment for the collection transportation, processing, storage and disposal of waste) to obtain an approval from the Director (i.e., an employee of the Ministry of the Environment so designated under section 5 of the Act), before establishing or modifying such a site or system, or changing the type of waste handled by it.

**Note: As a result of the addition of a new section 28(1) to the EPA by the *Services Improvement Act, 1997*, waste disposal sites and waste management systems subject to section 27 of the EPA also include equipment and facilities for the transportation, storage, treatment and disposal of hauled sewage (e.g., septage) previously subject to the requirements of Part VIII of the EPA repealed by the *Services Improvement Act, 1997*.**

Ontario Regulation 347, under the EPA, lists definitions related to waste disposal sites and systems and specifies minimum standards of performance. Among those definitions applying to sewage works, Regulation 347 defines processed organic waste as *"..waste that is predominantly organic in composition and has been treated by aerobic or anaerobic digestion, or other means of stabilization and includes residual from sewage works that are subject to the*

*provisions of the Ontario Water Resources Act". It also defines organic soil conditioning as "...the incorporation of processed organic waste in the soil to improve its characteristics for crop or ground cover growth".*

Specific guidelines for the disposal of residual sewage treatment plant sludge (also referred to as processed organic waste or biosolids) on agricultural lands have been developed by the Ministry in conjunction with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). The guidelines, namely "Guidelines for the Utilization of Biosolids and other Wastes on Agricultural Land, March 1996" and as amended, set out the application rates and other conditions related to spreading/disposal of biosolids (including STP sludge) on agricultural land. The District Managers of the Ministry's District Offices are designated as the Director under section 5 of the EPA for the purpose of approval of "processed organic waste (biosolids) disposal sites (also referred to as "organic soil conditioning sites").

In order to haul processed organic waste for the purpose of spreading on land, either liquid or solid, a waste management system approval is required under section 27 of the EPA. Applications for approval for organic waste management systems are dealt with by the Environmental Assessment and Approvals Branch.

When dewatered sludge solids or incinerator ash are to be disposed of in a municipal landfill, an approval under section 27 for the receiving site is also required. Applications for approval for those sites which require a public hearing, or which are subject to the EAA (or were subject when originally approved) are processed by the Waste Sites and Systems Unit of the Environmental Assessment and Approvals Branch. The Regional Directors deal with applications for approval of sites not requiring public hearing and not subject to EAA.

Where a waste disposal site is to include construction of facilities for treatment and disposal of sewage (including leachate, drainage and storm water) to surface waters, or construction of a sanitary sewer or forcemain for the discharge of sewage into a communal sewage collection system, a sewage works approval from the Director (Environmental Assessment and Approvals Branch) is required under section 53 of the OWRA.

**Note: Except for the construction of the connecting sanitary sewer or forcemain, there is no need to obtain a section 53 OWRA approval for the leachate to be discharged to a sanitary sewage collection system. However, it is the owner of the sewage treatment plant who may or may not allow for the leachate to be discharged into the sewage collection system, and it is the responsibility of that owner to establish whether the plant can handle the leachate without a negative impact on the operation of the plant, and to design, obtain approval for and implement any necessary plant modifications.**

## **2.3 Sewage Systems**

Part VIII (sections 74 through 83) of the EPA has been repealed by the *Services Improvement Act*, 1997, and of the sewage systems previously subject to Part VIII of the EPA,

- the small (10,000 L/d or less) individual on-site sewage systems are now sewage systems subject to the *Building Code Act*, 1992, as amended by the *Services Improvement Act*, 1997, administered by the local Municipalities, and in some areas, by the local Health Units or Conservation Authorities,
- the communal, off-site and large (more than 10,000 L/d) individual on-site sewage systems with sub-surface effluent disposal are now sewage works subject to section 53 of the OWRA, as amended by the *Services Improvement Act*, 1997, administered by the Environmental Assessment and Approvals Branch of the Ministry, and
- sewage systems for the transportation, treatment and land application of hauled sewage are now waste management systems and hauled sewage sites subject to the requirements of Part V (section 27) of the EPA, as amended by the *Services Improvement Act*, 1997, administered by the Environmental Assessment and Approvals Branch of the Ministry.

### 3. ENVIRONMENTAL ASSESSMENT ACT (EAA)

The primary impact of the *Environmental Assessment Act* on the approval process under the OWRA, and for that matter, any other approval or permit issued by any provincial or municipal government, is the fact that no such approvals may be granted until all the requirements of the EAA have been fulfilled.

Section 6(1) of the EAA states, in part:

*Where a proponent is required under this Act to submit to the Minister an environmental assessment of the undertaking,*

*(a) a licence, permit, approval, permission or consent that is required under any statute, regulation, by-law or other requirement of the Province of Ontario, an agency thereof, a municipality or a regulatory authority, in order to proceed with the undertaking shall not be issued or granted; .....*

*unless,*

*(c) the environmental assessment has been submitted to and accepted by the Minister; and,*

*(d) the Minister has given approval to proceed with the undertaking.*

The *Environmental Assessment Act* stipulates that a project is subject to the requirements of the EAA if it is undertaken by a provincial or municipal government or any of their agencies, or if the project is specifically designated by the EAA (or a regulation issued under the EAA) to be subject to the requirements.

**Note: An undertaking by a provincial or municipal government or any of their agencies is interpreted to include also a project undertaken by a private entity on behalf of such a**

**government or agency with the resulting works becoming the property of the government or its agency upon completion of the project.**

An undertaking by a private entity, where the resulting works is to remain privately owned upon its completion and commissioning, is not subject to the requirements of the EAA, unless specifically designated by the EAA (or a regulation issued under the EAA).

**Note: An undertaking by a private entity not subject to the requirements of the EAA is interpreted to include situations where the ownership of the works is intended to be transferred to a provincial or municipal government or any of their agencies at a later date but will remain in the ownership of the private entity at the time of the commissioning of the works.**

**Note: For most municipal undertakings requiring approval under the OWRA, the EAA requirements can be satisfied by completion of a planning process appropriate for the particular type of undertaking (i.e., Schedule A, B or C project) set out in the document entitled "Class Environmental Assessment for Municipal Sewage and Water Projects" prepared by the Municipal Engineers Association (commonly known as the MEA Class EA), approved by the Minister under O.C. No. 836/87. Please refer to the document for further information.**

#### **4. ENVIRONMENTAL BILL OF RIGHTS (EBR)**

The *Act Respecting Environmental Rights in Ontario Act*, known as the Environmental Bill of Rights (EBR), provides for a process allowing the residents of Ontario to participate in government decisions having a potential for a significant impact on the environment. This process involves posting proposals for prescribed instruments (i.e., instruments prescribed under the EBR as subject to its requirements) on the Environmental Registry (an internet website). The public is given a minimum of 30 days to submit comments on the posted proposals, and decisions on the proposals are rendered (approvals or permits are issued or denied) upon considering the received comments. The decisions are then placed on the Environmental Registry. Also, EBR provides for the right of third parties to apply to the Environmental Appeal Board for leave (permission) to appeal certain decisions after they are placed on the Registry.

Regulation 681/94, "Classification of Proposals for Instruments", issued under the *Act Respecting Environmental Rights in Ontario Act*, lists and classifies the types of proposals subject to the requirements of the Environmental Bill of Rights.

In accordance with the Regulation, the following types of section 53 OWRA (sewage works) approvals are EBR prescribed instruments:

- all approvals of sewage works that would set limits for the discharge of specific contaminants from a discharge point are EBR Class II Prescribed Instruments, unless,
  - i there is already an approval under subsection 53(1) relating to the same discharge point, and

- ii the proposed approval would not permit an increase in the discharge of any of the specific contaminants from the discharge point; and
- all approvals of sewage works that would cross a municipal boundary, and all other sewage works approvals that require a hearing under the OWRA are EBR Class III Prescribed Instruments.

**Note: Section 53 OWRA (sewage works) approvals other than those identified above, and section 52 OWRA (water works) approvals are not EBR prescribed instruments.**

Even if identified as EBR prescribed instruments by the Regulation, in certain situations, proposals may not have to involve public participation in the process of rendering a decision (granting or refusing approval). To that effect, the EBR provides for exceptions to the public participation requirements in specifically defined situations. The excepting situations defined by the EBR are as follows:

- **Equivalent public participation (s. 30, EBR)** - Equivalent public participation is a situation where all environmentally significant aspects of the proposal have already been considered in a process of public participation that was substantially equivalent to the requirements under the EBR.

**Note: When requesting an equivalent public participation exception, the proponent must provide details of the completed province-wide public participation including: type of the province-wide public participation, how it was conducted, number of people that participated, the type of public comments, actions taken as a result of the public comments, an indication whether or not this Ministry's staff were involved in the process, and documentation verifying the public participation.**

- **Emergency (s. 29, EBR)** - An emergency is a situation where the delay involved in giving notice to the public, allowing time for public response to the notice, or considering the response to the notice would result in danger to health or safety of any person, harm or serious risk of harm to the environment, or injury or damage or serious risk of injury or damage to any property.

**Note: When requesting an emergency exception, the proponent must provide information demonstrating that there is an emergency situation and that the proposal will minimize the adverse effects of the emergency situation.**

- **Environmentally insignificant amendment or revocation (s. 22 (3), EBR)** - An environmentally insignificant amendment or revocation is a proposal for an amendment to or a revocation of an existing approval where there will be insignificant effect on the environment.

**Note: When requesting an environmentally insignificant amendment or revocation exception, the proponent must provide information demonstrating that there will be no significant impact on the environment.**



- **EAA or tribunal decision (s. 32, EBR)** - An EAA or tribunal decision is a situation where the proposal is a step towards the implementation of an undertaking proceeding in accordance with a completed environmental assessment process approved under the *Environmental Assessment Act* or a decision of a public tribunal after affording an opportunity for public participation. [Note: All EBR subject sewage works undertaken by municipalities or private sector developers also subject to and proceeding in accordance with the requirements of the *Environmental Assessment Act* (EAA) fall within this definition of an excepting situation.]

**Note: When requesting an EAA or tribunal decision exception, the proponent must provide proof of completion of the applicable environmental assessment process, or a copy of the tribunal decision.**

For details on the applicability and requirements of the EBR and the regulations written under it, Applicants should refer to the Ministry publication entitled "The Requirements of the Environmental Bill of Rights for Prescribed Instruments".

**Note: For general information on the EBR and the Environmental Registry, please access the EBR Internet website at <http://www.ene.gov.on.ca/envision/ebr/welcome.htm> or contact the Public Information Centre, Ministry of the Environment, 135 St. Clair Avenue West, 1st Floor, Toronto, Ontario, M4V 1P5, general inquiries (416) 323-4321, or toll free 1-800-565-4923.**

The Environmental Registry may be accessed through the above-noted EBR Internet website or directly at <http://www.ene.gov.on.ca/envision/env-reg/er/registry.htm>.

# APPENDIX B

## ENVIRONMENTAL GUIDELINES AND PROCEDURES OVERVIEW

The Ministry continually develops and updates environmental guidelines and procedures which provide a framework for actions and decisions of the Ministry staff in day-to-day operation in order to ensure that those actions and decisions are in concordance with the Ministry's mandate and the policies of the Ontario Government, as well as to inform the public of the basis of those actions and decisions.

These guidelines and procedures are contained in the Manual of Environmental Guidelines and Procedures (the Manual). Copies of the Manual may be obtained from the Public Information Centre, Ministry of the Environment, 135 St. Clair Avenue West, 1st Floor, Toronto, Ontario, M4V 1P5, and may be ordered by phone at (416) 325-4000 or toll free at 1-800-565-4923. The Manual may also be accessed through any of the Ministry's Regional or District offices, and is also available on the Ministry's internet website at <http://www.ene.gov.on.ca>.

As a general rule, any proposed sewage and water works must be in compliance with these guidelines and procedures. In case of some of the guidelines, formal procedures for deviation from those guidelines have been established and these procedures are part of the guidelines.

The following is a brief summary of the Ministry's environmental guidelines and procedures relevant to water and sewage works for which approval under the OWRA is required. For comprehensive understanding of the guidelines and procedures, reference should be made to their full texts in the Manual. The Ministry staff may be contacted for further clarification.

### **LAND USE GUIDELINES**

#### **D2 COMPATIBILITY BETWEEN SEWAGE TREATMENT FACILITIES AND SENSITIVE LAND USES**

This Guideline sets out recommendations for separation distances and other control measures to minimize the impact of odours and noise on sensitive land uses adjacent to municipal and private sewage treatment facilities. It applies to applications for approval under section 53 of the OWRA and section 9 of the EPA for the construction of new and expansion of existing municipal and private sewage treatment facilities.

This means that when new sewage treatment facilities or major enlargements are proposed, an adequate land around the proposed facility (buffer zone) should be acquired as part of the project in order to avoid imposing constraints on the surrounding land use.

The recommended and minimum separation distances vary with the type and size of the proposed facilities, as follows:

- Sewage Treatment Plants with a capacity up to 500 m<sup>3</sup>/d
  - recommended distance: 100 m
- Sewage Treatment Plants with a capacity from 500 m<sup>3</sup>/d to 25,000 m<sup>3</sup>/d
  - minimum distance: 100 m
  - recommended distance: 150 m
- Sewage Treatment Plants with a capacity greater than 25,000 m<sup>3</sup>/d
  - minimum distance: 100 m
  - recommended distance: assessed on a case-by-case basis  
(may be greater than 150 m)
- Waste Stabilization Ponds
  - minimum distance: assessed on a case-by-case basis depending on the type of pond and characteristics of the waste  
(from 100 m to 400 m).

**Note:** The “recommended distance” is the required separation distance where no special noise and odour control facilities and/or equipment are proposed. Where adequate noise and odour control facilities and/or equipment are proposed, the required separation distance may be reduced down to the identified “minimum distance”. As such, for plants smaller than 500 m<sup>3</sup>/d, the required separation distance may be reduced below 100 m if adequate noise and odour control facilities and/or equipment are proposed.

## **D5 PLANNING FOR SEWAGE & WATER SERVICES**

This Guideline is intended to guide municipal planning for sewage and water servicing. It describes an approach for municipal planning for sewage and water services to ensure an acceptable quantity and quality of water supply and the proper collection, treatment and disposal of sewage wastewater for development. It is consistent with the Provincial goal to manage growth and change to foster communities that are socially, economically, environmentally, and culturally healthy, and that make efficient use of land, new and existing infrastructure and public service facilities. In order to ensure adequate and uninterrupted service to the public the Ministry requires municipal ownership and responsibility for operation and maintenance of communal services, which is stipulated in Procedure D5-2 associated with this Guideline.

### **Procedure D5-2 Application of Municipal Responsibility for Communal Water and Sewage Services**

This Procedure stipulates the requirement for municipal ownership and responsibility for operation and maintenance of proposed new communal water and sewage works and existing privately owned communal water and sewage works when they are proposed for expansion, and specifies the applicability of, and the acceptable manner of compliance with the requirement. This requirement is intended to prevent interruption of communal services, which could happen with privately owned works in the event of a default situation.

As defined in the Procedure, communal water and sewage works are works serving more than five (5) units of full-time or seasonal residential or industrial/commercial occupancy or other occupancy as determined by MOE staff.

As such, neither municipal ownership nor any other municipal responsibility is required for works serving transient users (e.g., summer camps, resorts, hotels/motels) where the users can readily depart from the affected area in the event of a default situation.

On the other hand, municipal ownership and responsibility for operation and maintenance, or another form of municipal responsibility is required for works serving permanent users, e.g., freehold multi lot/unit residential developments, condominium developments (including time-share condominiums), senior citizen's nursing homes, full-time and seasonal residential occupancy mobile home parks, multi-unit industrial and commercial parks.

Where **municipal ownership** of communal works cannot be achieved and where the works are located in an area with no municipal organization (unorganized area), this issue must be addressed in pre-application consultation with the local District Office of the Ministry and resolved prior to submitting an application for approval of the works.

In some situations, it may be acceptable if the proponent enters into a default responsibility agreement with the local government (municipality or local services board) in stead of transferring ownership of the works. The acceptability of such an option may only be determined in pre-application consultation with the local District Office of the Ministry, however, it is generally acceptable for condominiums, nursing homes, mobile home parks, and industrial and commercial parks. **Such option, is not available for freehold multi lot/unit residential developments.**

Establishment of communal water and sewage services in unorganized areas is generally discouraged, however in some situations, especially in cases of proposed expansions of existing systems, it may be found appropriate. In all such cases, it is necessary for the proponent to deposit with the Ministry an appropriate financial assurance which would allow the Ministry to take over the works in a default situation. [For details on the applicability and requirements of financial assurance see Guideline F-15 Financial Assurance]

**Note: Depositing of a financial assurance with the Ministry in lieu of municipal ownership or default responsibility agreement is not an acceptable alternative for developments in organized areas (i.e., areas under jurisdiction of a municipality or a local services board).**

## **ABATEMENT AND APPROVALS GUIDELINES**

### **F15 FINANCIAL ASSURANCE**

This Guideline identifies criteria for the application of financial assurance requirements to various undertakings requiring approval under the EPA and OWRA, including calculation of the amount of financial assurance required.

Financial assurance normally applies to private owners of works or facilities and may be required to ensure that the owners comply with specific terms and conditions of the approval or order, or that funds are available to the Ministry for decommissioning and dismantling, or if required, continuation of the operation of the works or facilities in the event of a default situation.

Establishment of communal water and sewage services in unorganized areas where there is no agreement with the Ministry of Municipal Affairs and Housing for creation of a local government (e.g., municipality or local services board), or expansion of the boundaries or the area of responsibility of an existing local government for the purpose of taking over the ownership of the works or entering into a default responsibility agreement with the proponent/owner of the works, is generally discouraged. However in some situations, especially in cases of proposed expansions of existing systems, it may be found appropriate. **Where establishment of communal water and sewage services in such an area is found acceptable, providing the Ministry with an appropriate financial assurance is mandatory.**

**Note: Where there is an agreement with the Ministry of Municipal Affairs and Housing for creation of a local government, or expansion of the boundaries or the area of responsibility of an existing local government for the purpose of taking over the ownership of the works or entering into a default responsibility agreement with the proponent/owner of the works, a temporary financial assurance may still be required until such a local government is created, and an appropriate agreement between the local government and the owner of the works is finalized.**

Financial assurance is not normally required for works serving transient users such as summer camps, and resorts where those being served by the works can readily depart from the affected area in the event of a default situation unless proper decommissioning and dismantling of the works in case of their abandonment would be crucial for the protection of the environment.

When required, financial assurance is to be deposited with the Director of the Financial and Capital Management Branch of this Ministry in a form outlined in Part X-A, Section 131 of the EPA.

## **F5 LEVELS OF TREATMENT FOR MUNICIPAL AND PRIVATE SEWAGE TREATMENT WORKS DISCHARGING TO SURFACE WATERS.**

This Guideline describes the levels of treatment that the Ministry requires at municipal and private sewage treatment works discharging to surface waters.

The Guideline stipulates that the normal level of treatment required in the province for municipal and private sewage works is secondary treatment or equivalent. Higher than normal level of treatment would be required where justified by a site-specific receiving water impact assessment.

## **B7 INCORPORATION OF THE REASONABLE USE CONCEPT INTO MOE GROUNDWATER MANAGEMENT ACTIVITIES**

This Guideline provides the basis for determining what constitutes the reasonable use of groundwater on properties adjacent to sources of contamination and the levels of contaminant discharges to groundwater aquifers considered acceptable by the Ministry, and for the establishment of the limits for the discharge of contaminants to the groundwater from facilities proposed for approval.

Of the works subject to approval under the OWRA, this Guideline applies to the disposal of sewage effluent by exfiltration lagoons, spray irrigation, and leaching beds and other sub-surface disposal systems.

The technical details necessary in order to establish applicability of this Guideline to a particular project and determine the specific criteria which would have to be met for a particular project to comply with the Guideline are contained in **Procedure B7-1 entitled “Determination of Contaminant Limits and Attenuation Zones”**. This Procedure must be referred to for further information.

## **F6 SEWER AND WATERMAIN INSTALLATION: SEPARATION DISTANCE REQUIREMENTS**

Sanitary and storm sewers and forcemains, and watermains located parallel to each other should be constructed in separate trenches maintaining a clear horizontal separation distance of 2.5 m. Deviations from this requirement may be allowed under certain circumstances and when certain conditions are met. These circumstances and conditions are outlined in the **Procedure F6-1: “Procedures to Govern the Separation of Sewers and Watermains”**, and it must be referred to for further information.

## **F7 MINIMUM ACCEPTED LEVEL OF SERVICING FOR MUNICIPALLY AND PRIVATELY OWNED COMMUNAL SYSTEMS.**

This Guideline identifies the minimum recommended level of servicing for municipally owned communal water and sewage systems in the Province of Ontario. Identified minimum level of servicing includes providing adequate quality and quantity of water, method of water distribution, method of sewage collection, and method of sewage treatment and disposal.

## **F8 PROVISION AND OPERATION OF PHOSPHORUS REMOVAL FACILITIES AT MUNICIPAL, INSTITUTIONAL AND PRIVATE SEWAGE TREATMENT WORKS**

This Guideline identifies the requirements for the provision and operation of phosphorus removal facilities on a drainage basin basis. It states that certain drainage basins in the Province require

phosphorus removal down to 1.0 mg/L Total Phosphorus in the effluent. (More stringent requirement may apply on a site specific basis).

Proponents should consult with staff of the Technical Support Section of the appropriate Regional Office of the Ministry to determine which drainage basins are affected and what effluent criteria may be required for a specific point of discharge.

## **F10 SAMPLING AND ANALYSIS REQUIREMENTS FOR MUNICIPAL AND PRIVATE SEWAGE TREATMENT WORKS**

This policy describes the minimum sampling and analysis requirements for municipal and private sewage works for the purpose of assessing the works performance and compliance with effluent requirements.

However, it should be noted that the sampling and analysis requirements imposed by the conditions of a Certificate of Approval under section 52 or 53 of the OWRA, which may be more stringent than the minimum requirements of this Guideline, will govern the monitoring of performance and compliance of any specific works.

## **F13 APPROVAL OF EXPANSION TO PREVIOUSLY CONSTRUCTED AND UNAPPROVED FACILITIES**

This Guideline relates to expansion of, or additions to sewage and water works constructed prior to the passage of the OWRA. It requires that the state of the existing works be ascertained to ensure that the new works are not jeopardized by previously unapproved and unacceptable facilities, and that the old works are capable of accommodating the expansion. This requirement ensures that the entire completed system, consisting of the old and new works, can be properly operated and achieve the required water production or sewage treatment effluent discharge criteria.

## **WATER GUIDELINES**

### **B1 WATER MANAGEMENT - GUIDELINES AND PROCEDURES OF THE MINISTRY OF THE ENVIRONMENT**

This Guideline is intended to ensure the effective management of the Provinces water resources.

Among others, it establishes specific receiving water quality objectives (i.e. PWQO's - Provincial Water Quality Objectives) for many pollutants, and the requirements intended to ensure that the objectives are maintained or achieved. These objectives are used as the basis for establishing specific effluent requirements (design objectives and non-compliance criteria) for sewage works proposed for approval under section 53 of the OWRA.

The details of the Guideline are contained in **Procedure B1-1 entitled “ Water Management - Guidelines and Procedures of the Ministry of the Environment”**, often referred to as “The Blue Book”. The aspects of the water resources management covered by the document include:

**Surface Water Quality Management**

- Areas with Water Quality better than Provincial Water Quality Objectives
- Areas with Water Quality not meeting Provincial Water Quality Objectives
- Effluent Requirements
- Hazardous Substances
- Mixing Zones

**Surface Water Quantity Management**

- Water Quality-Quantity Inter-relationships
- Permits to Take Water
- Surface Water Conservation

**Ground Water Quality Management**

- Regulated Sources of Contamination
- Unregulated Sources of Contamination

**Ground Water Quantity Management**

- Permits to Take Water
- Resolution of Interference Problems
- Ground Water Conservation

## **B2 SURFACE WATER QUALITY MANAGEMENT - DEVIATIONS**

This Guideline elaborates on the Ministry’s practices concerning deviations from the Surface Water Quality Management "Policy 2" identified in Guideline B1, i.e., policy stating that no further water quality degradation shall be allowed in areas with water quality not meeting Provincial Water Quality Objectives. Deviation from "Policy 2" refers to instances where in areas with water quality not meeting Provincial Water Quality Objectives, it is not possible to prevent further degradation of existing water quality. The Guideline identifies the situations in which a request for a deviation may be considered and the procedures to be followed in order to obtain a deviation.

## **B5 DRINKING WATER QUALITY**

This Guideline and the associated **Procedure B5-1 entitled "Ontario Drinking Water Standards"** (which replaced previous Procedure B5-1 entitled “Ontario Drinking Water Objectives”), is intended to assist with meeting the requirements governing water works under the Ontario Water Resources Act (OWRA) and Regulation .../00, Drinking Water Protection, which require that water intended for human consumption contain no disease-causing organisms or unsafe concentrations of toxic chemicals or radioactive substances, as well as to encourage aesthetical acceptability of the water being supplied.

In addition to identifying the standards and objectives for the quality of the supplied drinking water, the Procedure also provides guidelines on the protection of the raw water source; sets out requirements regarding characterisation of raw water prior to seeking approval for water works under Section 52 of the OWRA, monitoring of the quality of the produced drinking water, notification of the Ministry and the Medical Officer of Health of exceedences of any water quality



standards, and undertaking corrective action in case of such exceedences; sets out criteria to be used by the Director in considering applications for approval of water works; and provides rationale for the sampling and analysis requirements, and individual water quality standards and objectives .

The scope and complexity of the Procedure makes it impossible to provide here any meaningful summary of its requirements, and the actual document must be referred to for any specific information.

## **B7 INCORPORATION OF THE REASONABLE USE CONCEPT INTO MOE GROUNDWATER MANAGEMENT ACTIVITIES**

This Guideline provides the basis for determining what constitutes the reasonable use of groundwater on properties adjacent to sources of contamination and the levels of contaminant discharges to groundwater aquifers considered acceptable by the Ministry, and for the establishment of the limits for the discharge of contaminants to the groundwater from facilities proposed for approval.

Of the works subject to approval under the OWRA, this Guideline applies to the disposal of sewage effluent by exfiltration lagoons, spray irrigation, and leaching beds and other sub-surface disposal systems.

The technical details necessary in order to establish applicability of this Guideline to a particular project and determine the specific criteria which would have to be met for a particular project to comply with the Guideline are contained in **Procedure B7-1 entitled “Determination of Contaminant Limits and Attenuation Zones”**. This Procedure must be referred to for further information.

## **B13-3 CHLORINATION OF POTABLE WATER SUPPLIES IN ONTARIO**

Where chlorination is used as a method of disinfection, water works must conform to the requirements set out in this procedure. **[Note: Procedure B13-3 supersedes the MOE Bulletin 65-W-4 “Chlorination of Potable Water Supplies”, 1987.]**

In addition to the requirements regarding chlorination as a part of the raw water treatment process intended to destruct or inactivate pathogenic organisms, Procedure B13-3 includes requirements regarding maintenance of a minimum chlorine residual throughout the distribution system intended to prevent secondary contamination.

**Note: The distribution system chlorine residual requirements of Procedure B13-3 apply to all water supply systems regardless of the method used for the destruction/inactivation of pathogenic organisms present in the raw water, and where methods other than chlorination are used for this purpose, a chlorination system must be provided specifically for the purpose of achieving and maintaining the minimum distribution system chlorine residual necessary to prevent secondary contamination.**

# APPENDIX C

## MUNICIPALITIES CURRENTLY UNDER THE TRANSFER OF REVIEW PROGRAM

Southwestern Region	D.M. of Muskoka ** City of Barrie ** Municipality of Chatham-Kent City of London ** City of Orillia ** Town of Bosanquet ** Township of Moore*
West Central Region	R.M. of Niagara R.M. of Hamilton-Wentworth R.M. of Waterloo R.M. of Haldimand-Norfolk City of Brantford
Central Region	R.M. of Durham ** R.M. of Halton R.M. of Peel ** (SWM for City of Mississauga <b>only</b> ) R.M. of York ** City of Toronto Town of Markham** Town of Richmond Hill**
Eastern Region	R.M. of Ottawa-Carleton City of Kingston
Northern Region	R.M. of Sudbury City of North Bay ** City of Sault Ste. Marie City of Thunder Bay City of Timmins

\* Sewers and watermains only (no pumping stations)

\*\* Also including storm water management (SWM) facilities (not for quality control)

**Note:** Except as indicated above, the types of works covered by the program include: watermains, water booster pumping stations, storm and sanitary sewers (except for new stormwater outfalls), and sewage pumping stations and forcemains (except for those pumping directly to a sewage treatment plant).

# APPENDIX D

## REGIONAL, DISTRICT AND AREA OFFICES OF THE MINISTRY

SOUTHWESTERN REGION (1)	WEST-CENTRAL REGION (2)	CENTRAL REGION (3)
<b>London Regional Office</b> 659 Exter Rd., 2 <sup>nd</sup> fl. London, Ontario N6E 1L3 Phone: (519) 873-5000 1-800-265-7672 <b>(519 area only)</b> Fax: (519) 873-5020	<b>Hamilton Regional Office</b> 119 King St.W., 12 <sup>th</sup> fl. Hamilton, Ontario L8P 4Y7 Phone: (905) 521-7640 1-800-668-4557 Fax: (905) 521-7820	<b>Toronto Regional Office</b> 5775 Yonge St., 8 <sup>th</sup> fl. North York, Ontario M2M 4J1 Phone: (416) 326-6700 1-800-810-8048 Fax: (416) 325-6346
<b>London District Office</b> 659 Exter Rd., 2 <sup>nd</sup> fl. London, Ontario N6E 1L3 Phone: (519) 873-5000 1-800-265-7672 <b>(519 area only)</b> Fax: (519) 873-5020	<b>Hamilton District Office</b> 119 King St.W., 12 <sup>th</sup> fl. Hamilton, Ontario L8P 4Y7 Phone: (905) 521-7650 1-800-668-4557 Fax: (905) 521-7806	<b>Toronto District Office</b> 5775 Yonge St., 8 <sup>th</sup> fl. North York, Ontario M2M 4J1 Phone: (416) 326-6700 1-800-810-8048 Fax: (416) 325-6346
<b>Sarnia District Office</b> 1094 London Rd. Sarnia, Ontario N7S 1P1 Phone: (519) 336-4030 1-800-387-7784 Fax: (519) 336-4280	<b>Guelph District Office</b> 1 Stone Rd.W., 4 <sup>th</sup> fl. Guelph, Ontario N1G 4Y2 Phone: (519) 826-4255 1-800-265-8658 Fax: (519) 826-4286	<b>Halton-Peel District Office</b> 4145 North Service Rd, Suite 300 Burlington, ON L7L 6A3 Phone: 905-319-3847 1-800-335-5906 Fax: 905-319-9902
Windsor Area Office 250 Windsor Ave., 6 <sup>th</sup> fl. Windsor, Ontario N9A 6V9 Phone: (519) 254-2546 1-800-387-8826 Fax: (519) 254-5894	<b>Niagara District Office</b> 301 St. Paul St., 9 <sup>th</sup> fl., Suite 15 St. Catharines, Ontario L2R 3M8 Phone: (905) 704-3900 1-800-263-1035 <b>(905&amp;519 areas only)</b> Fax: (905) 704-4015	<b>York-Durham District Office</b> 230 Westney Rd.S., 5 <sup>th</sup> fl. Ajax, Ontario L1S 7J5 Phone: (905)427-5600 1-800-376-4547 Fax: (905)427-5602
<b>Barrie District Office</b> 54 Cedar Pointe Dr., Unit 1203 Barrie, Ontario L4N 5R7 Phone: (705) 739-6441 1-800-890-8511 Fax: (705) 739-6440 <b>(includes Muskoka area)</b>		
Owen Sound Area Office 15802 <sup>th</sup> St.E. Owen Sound, Ontario N4K 6H6 Phone: (519) 371-2901 1-800-265-3783 Fax: (519) 371-2905		

EASTERN REGION (4)	NORTHERN REGION (5)	
<b>Kingston Regional Office</b> 133 Dalton Ave., P.O. Box 820 Kingston, Ontario K7L 4X6 Phone: (613) 549-4000 1-800-267-0974 Fax: (613) 548-6908	<b>Thunder Bay Regional Office</b> 435 James St. S., 3 <sup>rd</sup> fl., Suite 331 Thunder Bay, Ontario P7E 6S7 Phone: (807) 475-1205 1-800-875-7772 <b>(705&amp;807 areas only)</b> Fax: (807) 475-1754	
<b>Kingston District Office</b> 133 Dalton Ave., P.O. Box 820 Kingston, Ontario K7L 4X6 Phone: (613) 548-4000 1-800-267-0974 Fax: (613) 548-6908	<b>Thunder Bay District Office</b> 435 James St. S., 3 <sup>rd</sup> fl., Suite 331 Thunder Bay, Ontario P7E 6S7 Phone: (807) 475-1315 1-800-875-7772 <b>(705&amp;807 areas only)</b> Fax: (807) 473-3160	<b>Timmins District Office</b> Ontario Government Complex Highway 101 E., P.O. Bag 3080 South Porcupine, Ontario P0N 1H0 Phone: (705) 235-1500 1-800-380-6615 <b>(705&amp;807 areas only)</b> Fax: (705) 235-1520
<b>Cornwall Area Office</b> 113 Amelia St., 2 <sup>nd</sup> fl. Cornwall, Ontario K6H 3P1 Phone: (613) 933-7402 1-800-860-2760 Fax: (613) 933-6402	<b>Kenora Area Office</b> 808 Robertson St., Box 5150 Kenora, Ontario P9N 3X9 Phone: (807) 468-2718 1-888-367-7622 <b>(807 area only)</b> Fax: (807) 468-2735	<b>North Bay Area Office</b> 447 McKeown Ave., Suite 103 North Bay, Ontario P1B 9S9 Phone: (705) 497-6865 1-800-609-5553 Fax: (705) 497-6866 <b>(includes Parry Sound area)</b>
<b>Peterborough District Office</b> Robinson Place 300 Water St., S. Tower, 2 <sup>nd</sup> fl. Peterborough, Ont. K9J 8M5 Phone: (705) 755-4300 1-800-558-0595 Fax: (705) 755-4321 <b>(includes Haliburton area)</b>	<b>Sudbury District Office</b> 199 Larch St., Suite 1101 Sudbury, Ontario P3E 5P9 Phone: (705) 564-3237 1-800-890-8516 Fax: (705) 564-4180	
<b>Belleville Area Office</b> 470 Dundas St.E. Belleville, Ontario K8N 1G1 Phone: (613) 962-9208 1-800-860-2763 Fax: (613) 962-6809	<b>Sault Ste. Marie Area Office</b> 70 Foster Dr., Suite 610 Sault Ste. Marie, Ontario P6A 6V4 Phone: (705) 541-2170 1-800-965-9990 <b>(705&amp;807 areas only)</b> Fax: (705) 541-2171	
<b>Ottawa District Office</b> 2435 Holly Lane Ottawa, Ontario K1V 7P2 Phone: (613) 521-3450 1-800-860-2195 Fax: (613) 521-5437 <b>(includes Pembroke area)</b>		

# APPENDIX E

## SUMMARY OF WATER WORKS APPLICATION COSTS

SUMMARY OF OWRA s. 52 COSTS		
CATEGORY	TYPE OF APPLICATION	COST (\$)
<b>APPROVALS (for new works or equipment)</b> <b>TOTAL COST = 1 (always) + ( Total of one or any combination of 2 ,3,4, 5, 6) + 7 (if applicable)</b>		
1	Administrative processing (applies to all applications for new works or equipment)	200
2	A new intake for extraction of surface or ground water, together with treatment other than disinfection, or the expansion of the capacity of an existing intake or extraction of surface or ground water, together with treatment other than disinfection	5,000, if the maximum design capacity is not more than 4,550 cubic metres per day
3	A new intake for extraction of surface or ground water, together with treatment other than disinfection, or the expansion of the capacity of an existing intake or extraction of surface or ground water, together with treatment other than disinfection	10,000, if the maximum design capacity is more than 4,550 cubic metres per day
4	A facility for the extraction and supply of ground water with no treatment other than disinfection.	2000
5	Watermains and appurtenances, including hydrants.	1000
6	Highlift and booster pumping stations, reservoirs or elevated tanks.	2000
7	Review of Hydrogeological Assessment	3000
<b>AMENDMENTS (ADMINISTRATIVE)</b>		
8	Administrative amendments (no technical review involved)	100
100	Amendments required as a result of a condition on an existing approval	0
<b>AMENDMENTS (TECHNICAL)</b> <b>TOTAL COST = 1(always) +(Total of one or any combination of categories 9 ,10, 11) +7 (if applicable)</b>		
1	Administrative processing (applies to all amendment, except administrative amendments)	200

## SUMMARY OF OWRA s. 52 COSTS

CATEGORY	TYPE OF APPLICATION	COST (\$)
9	<p>A. a treatment plant upgrade, including new treatment (such as chemical coagulation and flocculation, settling, granular media filtration, membrane filtration, or contaminant absorption or disinfection) at existing water supply plants, new plant process waste stream treatment and disposal facilities, additional or replacement treatment modules, and the establishment, alteration, expansion or replacement of an intake facility, or</p> <p>B. a process modification, including the alteration, extension or replacement of an existing pumping system or chemical storage or application system (such as a change of chemical filter media or a standby power supply system) and the provision of additional points of process chemical application.</p>	3000
10	if the application relates to the alteration, extension or replacement of an existing well, including provision of an additional well to serve as a standby and the provision of disinfection and disinfection control facilities	1200
11	in any other case	600
7	Review of Hydrogeological Assessment	3000
100	Amendments required as a result of a condition on an existing approval	0
<b>REVOCATIONS</b>		
12	Administrative revocations (no technical review involved)	0
200	Revocation required as a result of a condition in an existing approval	0
500	If a technical review is involved in reviewing the application for the revocation, the applicable costs are outlined under <b>APPROVALS (for new works or equipment)</b> , above, where <b>TOTAL COST = 1 (always) + ( Total of one or any combination of 2 ,3,4, 5,6 ) + 7 (if applicable)</b>	as calculated

## APPENDIX F

### SUMMARY OF SEWAGE WORKS APPLICATION COSTS

SUMMARY OF OWRA s. 53 COSTS		
CATEGORY	TYPE OF APPLICATION	COST (\$)
<b>APPROVALS (for new works or equipment)</b>  <b>TOTAL COST = 1 (always) + ( Total of one or any combination of 2 through to12) + (Total of one or any combination of 13, 14 and 15, if applicable) + 16 (hearing cost - if applicable)</b>		
1	Administrative processing (applies to all applications for new works or equipment)	200
2	A municipal or private facility for the treatment and disposal of sewage, including a lagoon or stabilization pond or a sewage treatment plant, including the expansion, re-rating or upgrading of an existing facility that involves an increase in the rated capacity of the facility.	\$5,000, if the maximum design capacity is not more than 4,550 cubic metres per day
3	A municipal or private facility for the treatment and disposal of sewage, including a lagoon or stabilization pond or a sewage treatment plant, including the expansion, re-rating or upgrading of an existing facility that involves an increase in the rated capacity of the facility.	\$10,000, if the maximum design capacity is more than 4,550 cubic metres per day
4	A facility for attenuating stormwater runoff peak flow rate or volume or for managing stormwater runoff quality, such as detention or retention pools, underground chambers, oversized sewers, rooftop storage, parking lot storage, oil, grit and silt separators, flow control outlet structures, infiltration wells, perforated sewers, and trenches or outfalls, including the expansion of an existing facility that involves an increase in the rated capacity of the facility.	2000
5	A facility for the treatment and disposal of leachate, including the expansion of an existing facility that involves an increase in the rated capacity of the facility.	6000
6	A subsurface disposal facility, including the expansion of an existing facility that involves an increase in the rated capacity of the facility.	\$600, if the design capacity of the facility is not more than 15 cubic metres per day
7	A subsurface disposal facility, including the expansion of an existing facility that involves an increase in the rated capacity of the facility.	\$1,500, if the design capacity of the facility is more than 15 cubic metres per day and not more than 50 cubic metres per day
8	A subsurface disposal facility, including the expansion of an existing facility that involves an increase in the rated capacity of the facility.	\$3,000, if the design capacity of the facility is more than 50 cubic metres per day
9	A facility for the treatment and disposal of industrial process wastewater, including contact cooling water, including the expansion of an existing facility that involves an increase in the rated capacity of the facility.	6000

## SUMMARY OF OWRA s. 53 COSTS

CATEGORY	TYPE OF APPLICATION	COST (\$)
10	A facility for the disposal of spent water from a non-contact industrial cooling process, including the expansion of an existing facility that involves an increase in the rated capacity of the facility.	1000
11	Storm and sanitary sewers and appurtenances, including expansion of existing sewers.	900
12	Storm and sanitary pump stations, force mains, and sanitary sewage detention chambers or oversized sewers, including the expansion of an existing facility that involves an increase in the rated capacity of the facility.	1800
13	Review of Hydrogeological Assessment	3000
14	Review of effluent quality criteria assessment for stormwater management , cooling water or soil remediation facilities	1400
15	Review of effluent quality criteria assessment for municipal or private sewage, industrial process wastewater or leachate treatment plant	6000
16	Hearing	18000
<b>AMENDMENTS (ADMINISTRATIVE)</b>		
17	Administrative amendments (no technical review involved)	100
100	Amendments required as a result of a condition on an existing approval	0
<b>AMENDMENTS (TECHNICAL)</b>		
<b>TOTAL COST = 1(always) +(Total of one or any combination of categories 18,19 or 20 +(Total of one or any combination of 13 , 14 and 15, if applicable) + 16 (hearing cost - if applicable)</b>		
1	Administrative processing (applies to all amendment, except administrative amendments)	200
18	if the application relates to an amendment to an existing treatment plant approval to include additional facilities that do not increase the approved rated capacity of the plant, including new tertiary treatment facilities, plant process waste stream treatment and disposal facilities, new treatment facilities to replace deteriorated facilities and the establishment, alteration, expansion or replacement of an outfall	3600
19	if the application relates to the alteration, extension or replacement of treatment plant equipment or processes that do not involve the addition of new facilities, including,  A. the alteration, extension or replacement of a pumping system, an aeration system, a chemical storage or application system, filter media or a standby power supply system,  B. the provision of additional points of process chemical application, and  C. the provision of odour control equipment facilities.	1800
20	in any other case	600
13	Review of Hydrogeological Assessment	3000



## SUMMARY OF OWRA s. 53 COSTS

CATEGORY	TYPE OF APPLICATION	COST (\$)
14	Review of effluent quality criteria assessment for stormwater management , cooling water or soil remediation facilities cost	1400
15	Review of effluent quality criteria assessment for municipal or private sewage, industrial process wastewater or leachate treatment plant cost	6000
16	Hearing	18000
100	Amendments required as a result of a condition on an existing approval	0
<b>REVOCATIONS</b>		
21	Administrative revocations (no technical review involved)	0
200	Revocation required as a result of a condition in an existing approval	0
<p>If a technical review is involved in reviewing the application for the revocation, the applicable costs are outlined under <b>APPROVALS (for new works or equipment)</b>, above, where</p> <p><b>TOTAL COST = 1 (always) + ( Total of one or any combination of 2 through to 12) + (Total of one or any combination of 13, 14 and 15, if applicable) + 16 (hearing cost - if applicable)</b></p>		